

*SLIC #383*

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# *Groundwater Monitoring Report, Semi-Annual - May 2004 (SLIC NO. 383)*

Pacific Edge Engineering, Inc. Job Number 0199.0019.001

**Pilot Chemical Company  
11756 Burke Street  
Santa Fe Springs, California**



September 2004

*Prepared for:*

**Pilot Chemical Company  
11756 Burke Street  
Santa Fe Springs, California**

*Prepared by:*

**Pacific Edge Engineering, Inc.  
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*C.A. Stolz*  
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Craig A. Stolz, P.E.  
Principal Engineer



# PACIFIC EDGE ENGINEERING, INC.

September 30, 2004

Steven Hariri  
Regional Water Quality Control Board – Los Angeles  
320 West 4<sup>th</sup> Street, Suite 200  
Los Angeles, California 90013

**RE: SEMI-ANNUAL GROUNDWATER MONITORING REPORT, PILOT CHEMICAL COMPANY, SLIC NO. 383**

Dear Mr. Hariri:

On behalf of Pilot Chemical Company, Pacific Edge Engineering, Inc. (Pacific Edge) is providing the attached semi-annual groundwater monitoring report for the site located at 11756 Burke Street, Santa Fe Springs, California. This semi-annual report is for the first event in 2004.

The next sampling event is scheduled for October 2004. If you have any questions, please call me at (949) 470-1937.

Sincerely,

Craig A. Stoltz, P.E.  
Principal Engineer

Cc: Ed Trainer – Pilot Chemical Company

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9/30/04  
RPT  
11756 Burke Street  
Santa Fe Springs, CA  
90670  
Pilot Chemical Company

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## **PROFESSIONAL CERTIFICATION**

Pacific Edge Engineering, Inc., under the professional supervision of Craig A. Stolz, has prepared this report. The findings, conclusions, specifications, and/or professional opinions presented in this report have been prepared in accordance with generally accepted professional engineering practice, and within the scope of the project. There is no other warranty, either expressed or implied.



Craig A. Stolz  
P.E. No. C049756  
Principal Engineer  
Pacific Edge Engineering, Inc.



## **1.0 EXECUTIVE SUMMARY**

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This report presents the results of the May 2004 (semi-annual) groundwater sampling event at the Pilot Chemical Company, 11756 Burke Street, Santa Fe Springs, California. The semi-annual sampling event consists of sampling and measuring the water elevation of eleven wells located at the site. The purpose of this sampling and monitoring event is to update the water quality data and verify the direction of groundwater flow direction at the facility.

The May 2004 data indicate that the groundwater quality and the groundwater flow direction have not changed significantly when compared to previous sampling events. Chemical concentrations detected in monitoring wells are generally consistent with historical concentrations and trends.

The next semi-annual sampling event is planned for October 2004.



## **2.0 INTRODUCTION**

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This report presents the results of Pacific Edge's May 2004 semi-annual groundwater sampling and water elevation monitoring at the Pilot facility located at 11756 Burke Street in Santa Fe Springs, California. Figure 1 presents the facility location.

The site is approximately 4.3 acres in size. The site borders Burke Street on the north, Dice Road on the east, and industrial facilities on the west and south. A residential area is located northwest of the site. The site is used to manufacture detergent for industrial purposes and utilizes aboveground tanks and formerly used underground tanks as part of their operations. Aboveground tanks are located on the western portion of the site within containment areas and within the Old Warehouse, also within containment areas. The former underground storage tanks were used to store toluene, xylenes, and caustic materials. These tanks were located at the western portion of the property and were removed during the late 1980's.

Following the removal of the underground storage tanks several soil and groundwater investigations were conducted at the site. Clayton Environmental Consultants conducted the initial investigation in July 1988. Kleinfelder, Inc., and McLaren/Hart, Inc conducted subsequent investigations. The results of these investigations are found in the following reports:

1. Clayton Environmental Consultants, Inc., September 28, 1988, Soil Assessment and Preliminary Shallow Groundwater Investigation, Underground Xylene Storage Tank Cluster.
2. Kleinfelder, Inc., July 1991, Final Report Additional Subsurface Soil and Groundwater Assessment.
3. McLaren/Hart, Inc., October 1991, Subsurface Soil Investigation at the Former Underground Storage Tank Location.
4. McLaren/Hart, Inc., February 28, 1998, Former Storage Tank Farm Soil Investigation and Groundwater Sampling Report.

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Quarterly or semi-annual groundwater monitoring has been conducted at the site since April 1991. This report presents the results of the first semi-annual event for 2004.



### **3.0 GROUNDWATER ELEVATION AND FLOW DIRECTION**

On May 17, 2004, static water level measurements were measured in the eleven monitoring wells located at the facility using an electronic water interface probe. Figure 2 presents the facility site plan, which includes all monitor well locations. The water levels were measured to re-evaluate the direction of groundwater flow. The depth to groundwater and groundwater elevation data are presented in Table 1. Water level data from June 1995 through May 2004 are presented to provide the historic trend in water level.

As shown on Table 1, the groundwater elevation ranged from 96.10 feet above mean sea level (MSL) in downgradient well MW-9 to 97.76 feet MSL in well MW-11. The groundwater levels have generally decreased approximately 2.03 feet since the last event in October 2003.

Using the data presented in Table 1, a groundwater elevation contour map was plotted for the May 2004 event and is provided as Figure 3. The groundwater flow direction is to the southwest. The groundwater gradient is approximately 0.0040 feet per foot. The groundwater flow direction and gradient during this event are consistent with those of previous events.



## **4.0 GROUNDWATER SAMPLING AND ANALYSIS**

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On May 17 and May 19, 2004, groundwater samples were collected from the eleven monitoring wells at the facility. Samples were obtained using a Waterra Inertial Pump and dedicated poly tubing. Summaries of Pacific Edge's standard groundwater sampling protocols and field notes for this sampling event are provided as Appendix A. All groundwater samples were analyzed for the following compounds:

- Halogenated Volatile Organic Compounds (HVOCs) using EPA Method 601
- Aromatic Volatile Compounds (VOCs) using EPA Method 602
- Surfactants – MBAS using EPA Method 425.1
- pH using EPA Method 150.1
- Total Petroleum Hydrocarbons – diesel range (TPHd) by DHS LUFT Method.

A duplicate sample (DUP-1 collected from MW-8) was submitted to the laboratory for analysis of HVOCs and VOCs using EPA Methods 601 and 602.

Copies of the chain-of-custody forms and laboratory analytical reports are provided as Appendix B. Documentation for the proper disposal of purge water generated during this sampling event is provided as Appendix C. Laboratory results for this and previous events are summarized in Table 2.

### **4.1 PH – EPA METHOD 150.1**

pH measurements ranged from 6.83 in MW-10 to 7.39 in MW-6. These results are consistent with historic data for pH.

### **4.2 METHYL BLUE ACTIVE SUBSTANCES (MBAS) – EPA METHOD 425.1**

MBAS was detected in all monitoring wells. Detected MBAS concentrations at the site ranged from 0.23 milligrams per liter (mg/L) in MW-1 to 48.9 mg/L in MW-7. These MBAS results are consistent with historical results for the site.

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#### **4.3 HVOCS – EPA METHOD 601**

Eight HVOCs were detected in groundwater samples collected during this sampling event. HVOCs detected during this sampling event include:

- 1,1-dichloroethane (1,1-DCA) was detected in well (MW-9) at a concentration of 13.5 micrograms per liter (ug/L). MW-9 is the most downgradient monitoring well. Historically, 1,1-DCA has been detected in well MW-9 at similar concentrations.
- 1,1-dichloroethene (1,1-DCE) was detected in wells MW-9 and MW-11 at concentrations of 1.5 ug/L and 1.0 ug/L, respectively. Historically, 1,1-DCE has been detected in these wells at similar concentrations.
- Tetrachloroethane (PCE) was detected in MW-4, MW-5, MW-7, MW-8, MW-9, and MW-11 at concentrations of 1.0 ug/L, 2.5 ug/L, 0.9 ug/L, 2.6 ug/L, 1.2 ug/L, and 14.9 ug/L, respectively. Historically, the highest PCE concentration has been detected in upgradient well MW-5, indicating an off-site source. The highest PCE concentration detected during this sample event occurred in well MW-11. Well MW-11 is the most easterly onsite well and could be the first well to detect contaminants migrating onsite when the flow direction is southwest, such as this sample event.
- Carbon Tetrachloride was detected in MW-5, MW-6, MW-7, and MW-8 at concentrations of 70.0 ug/L, 103 ug/L, 1.8 ug/L, and 8.0 ug/L, respectively. These results are consistent with historical data for these wells and indicate an off-site source for Carbon Tetrachloride.
- Chloroform was detected in wells MW-5, MW-6, MW-7, MW-8, MW-9, and MW-11 at concentrations of 34.5 ug/L, 70.0 ug/L, 3.10 ug/L, 12.1 ug/L, 1.4 ug/L, and 2.5 ug/L, respectively. These results are consistent with historical data for these wells and indicate an off-site source.
- 1,2-dichloroethane (1,2-DCA) was detected in wells MW-2, MW-3, MW-4, MW-5, MW-7, MW-8, MW-9, MW-10, and MW-11. 1,2-DCA concentrations ranged

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from 6.0 ug/L in MW-5 to 2,600 ug/L in MW-10. These results are consistent with historical data for these wells. Figure 5 presents the distribution of 1,2 DCA in groundwater during this sampling event.

- Trichloroethene (TCE) was detected in MW-4, MW-5, MW-7, MW-8, MW-9, and MW-11 at concentrations of 2.2 ug/L, 2.5 ug/L, 1.6 ug/L, 1.3 ug/L, 79.3 ug/L, and 7.0 ug/L, respectively. These results are consistent with historical data for these wells.
- Cis-1,2 DCE was detected in MW-9 at a concentration of 3.7 ug/L. Cis-1,2 DCE is periodically detected in this well at similar concentrations.

#### **4.4 VOCs – EPA METHOD 602**

- Ethylbenzene was detected in MW-1, MW-2, MW-3, and MW-10 at concentrations of 31,500 ug/L, 5,500 ug/L, 5,280 ug/L, and 180 ug/L, respectively. These results are consistent with historical data for these wells.
- Toluene was detected in MW-1, MW-2, and MW-3 at a concentration of 95,000 ug/L, 35,400 ug/L, and 14,000, respectively. These results are consistent with historical data for these wells.
- Total Xylenes were detected in four of the eleven wells sampled. Total Xylene concentrations ranged from an estimated concentration of 480 ug/L in MW-10 to a concentration of 178,000 ug/L in MW-1. These results are consistent with historical data for these wells. Figure 4 presents the distribution of total xylenes in groundwater during this sampling event.

#### **4.5 TOTAL PETROLEUM HYDROCARBONS AS DIESEL – LUFT METHOD**

Total petroleum hydrocarbons (as diesel) were not detected in any of the wells. Total petroleum hydrocarbons within the carbon range of C13 – C22 was detected in the sample collected form MW-1 at a concentration of 38.7 micrograms per liter (mg/L). On occasion, low levels of TPH are detected in this well. The last detected concentration was 7.9 mg/l in May 1998.



## **5.0 CONCLUSIONS**

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Groundwater quality at the site remains consistent with previous sampling events. The following summarizes conclusions for the May 2004 semi-annual sampling event.

- pH measurements continue to indicate that groundwater beneath the site has not been impacted by caustic or corrosive material.
- Concentrations of all chemicals found in groundwater are generally consistent with historical data and trends.
- The groundwater elevation at the site has decreased approximately 2.03 feet since the last sampling and monitoring event in October 2003.
- The groundwater flow direction was measured to be toward the southwest, which is consistent with the historical flow direction when the water elevations are seasonably low.



# **Tables**

**TABLE 1**  
**HISTORICAL GROUNDWATER ELEVATION DATA**  
**PILOT CHEMICAL**

Well Identification	Date Measured	Elevation <sup>1</sup> (feet)	Depth to Water <sup>2</sup> (feet)	Groundwater Elevation <sup>3</sup> (feet)
MW-1	6/22/1995	152.44 <sup>4</sup>	35.39	117.05
	9/25/1995	152.44 <sup>4</sup>	30.89	121.55
	12/19/1995	152.44 <sup>4</sup>	36.25	116.19
	3/27/1996	152.44 <sup>4</sup>	32.99	119.45
	1/21/1997	152.60 <sup>5</sup>	35.62	116.98
	4/24/1997		33.64	118.96
	5/14/1997		33.50	119.10
	10/22/1997		37.01	115.59
	5/12/1998		32.54	120.06
	11/17/1998		34.82	117.78
	8/19/1999		40.71	111.89
	12/27/1999		49.84	102.76
	4/11/2000		43.42	109.18
	10/31/2000		43.13	109.47
	4/4/2001		41.02	111.58
	10/30/2001		45.42	107.18
	4/10/2002		42.76	109.84
	10/23/2002		51.20	101.40
	4/8/2003		45.17	107.43
	10/9/2003		53.67	98.93
	5/17/2004		55.45	97.15
MW-2	6/22/1995	153.45	33.08	120.37
	9/25/1995		35.59	117.86
	12/19/1995		39.52	113.93
	3/27/1996		35.72	117.73
	1/21/1997		36.55	116.90
	4/24/1997		34.75	118.70
	5/14/1997		34.88	118.57
	10/22/1997		38.39	115.06
	5/12/1998		33.52	119.93
	11/17/1998		37.54	115.91
	8/19/1999		41.58	111.87
	12/27/1999 <sup>6</sup>		49.82	103.63
	4/11/2000		44.22	109.23
	10/31/2000		43.56	109.89
	4/4/2001		41.54	111.91
	10/30/2001		44.89	108.56
	4/10/2002		43.30	110.15
	10/23/2002		51.39	102.06
	4/8/2003		46.20	107.25
	10/9/2003		53.79	99.66
	5/17/2004		56.46	96.99

**TABLE 1**  
**HISTORICAL GROUNDWATER ELEVATION DATA**  
**PILOT CHEMICAL**

Well Identification	Date Measured	Elevation <sup>1</sup> (feet)	Depth to Water <sup>2</sup> (feet)	Groundwater Elevation <sup>3</sup> (feet)
MW-3	6/22/1995	153.70	33.39	120.31
	9/25/1995		35.96	117.74
	12/19/1995		39.99	113.71
	3/27/1996		36.13	117.57
	1/21/1997		37.31	116.39
	4/24/1997		35.25	118.45
	5/14/1997		35.28	118.42
	10/22/1997		39.12	114.58
	5/12/1998		34.31	119.39
	11/18/1998		38.10	115.60
	8/19/1999		42.11	111.59
	12/27/1999		51.34	102.36
	4/11/2000		45.16	108.54
	10/31/2000		44.75	108.95
	4/4/2001		42.67	111.03
	10/30/2001		46.94	106.76
	4/10/2002		44.36	109.34
	10/23/2002		52.56	101.14
	4/8/2003		46.90	106.80
	10/9/2003		54.97	98.73
	5/17/2004		57.08	96.62
MW-4	6/22/1995	155.18	34.92	120.26
	9/25/1995		37.48	117.70
	12/19/1995		41.49	113.69
	3/27/1996		37.56	117.62
	1/21/1997		38.85	116.33
	4/24/1997		36.82	118.36
	5/14/1997		36.81	118.37
	10/22/1997		40.65	114.53
	5/12/1998		35.82	119.36
	11/17/1998		39.65	115.53
	8/19/1999		43.63	111.55
	12/27/1999		52.84	102.34
	4/11/2000		46.72	108.46
	10/31/2000		46.29	108.89
	4/4/2001		44.22	110.96
	10/30/2001		48.48	106.70
	4/10/2002		45.89	109.29
	10/23/2002		54.13	101.05
	4/8/2003		48.46	106.72
	10/9/2003		56.48	98.70
	5/17/2004		58.60	96.58

**TABLE 1**  
**HISTORICAL GROUNDWATER ELEVATION DATA**  
**PILOT CHEMICAL**

Well Identification	Date Measured	Elevation <sup>1</sup> (feet)	Depth to Water <sup>2</sup> (feet)	Groundwater Elevation <sup>3</sup> (feet)
MW-5	6/22/1995	151.70	30.28	121.42
	9/25/1995		33.26	118.44
	12/19/1995		36.92	114.78
	3/27/1996		31.99	119.71
	1/21/1997		33.91	117.79
	4/24/1997		33.85	117.85
	5/14/1997		32.19	119.51
	10/22/1997		36.11	115.59
	5/12/1998		31.02	120.68
	11/17/1998		35.14	116.56
	8/20/1999		39.42	112.28
	12/27/1999		48.60	103.10
	4/11/2000		41.80	109.90
	10/31/2000		41.52	110.18
	4/4/2001		39.37	112.33
	10/30/2001		43.96	107.74
	4/10/2002		41.17	110.53
	10/23/2002		49.55	102.15
	4/8/2003		43.51	108.19
	10/9/2003		52.26	99.44
	5/17/2004		54.03	97.67
MW-6	6/22/1995	151.77	30.49	121.28
	9/25/1995		33.36	118.41
	12/19/1995		37.16	114.61
	3/27/1996		33.16	118.61
	1/21/1997		34.21	117.56
	4/24/1997		34.19	117.58
	5/14/1997		32.40	119.37
	10/22/1997		36.31	115.46
	5/12/1998		31.26	120.51
	11/17/1998		35.39	116.38
	8/20/1999		39.59	112.18
	12/27/1999		48.78	102.99
	4/11/2000		42.07	109.70
	10/31/2000		41.78	109.99
	4/4/2001		39.63	112.14
	10/30/2001		44.17	107.60
	4/10/2002		41.42	110.35
	10/23/2002		49.76	102.01
	4/8/2003		43.75	108.02
	10/9/2003		52.42	99.35
	5/17/2004		54.24	97.53

**TABLE 1**  
**HISTORICAL GROUNDWATER ELEVATION DATA**  
**PILOT CHEMICAL**

Well Identification	Date Measured	Elevation <sup>1</sup> (feet)	Depth to Water <sup>2</sup> (feet)	Groundwater Elevation <sup>3</sup> (feet)
MW-7	6/22/1995	153.28	32.32	120.96
	9/25/1995		35.04	118.24
	12/19/1995		38.96	114.32
	3/27/1996		34.96	118.32
	1/21/1997		36.11	117.17
	4/24/1997		34.11	119.17
	5/14/1997		34.19	119.09
	10/22/1997		38.12	115.16
	5/12/1998		33.11	120.17
	11/17/1998		37.02	116.26
	8/19/1999		41.19	112.09
	12/27/1999		50.45	102.83
	4/11/2000		43.93	109.35
	10/31/2000		43.61	109.67
	4/4/2001		41.47	111.81
	10/30/2001		45.94	107.34
	4/10/2002		43.26	110.02
	10/23/2002		51.53	101.75
	4/8/2003		45.68	107.60
	10/9/2003		54.10	99.18
	5/17/2004		56.01	97.27
MW-8	6/22/1995	151.55	38.88	112.67
	9/25/1995		33.56	117.99
	12/19/1995		37.50	114.05
	3/27/1996		33.59	117.96
	1/21/1997		34.65	116.90
	4/24/1997		34.60	116.95
	5/14/1997		32.75	118.80
	10/22/1997		36.62	114.93
	5/12/1998		31.71	119.84
	11/17/1998		35.70	115.85
	8/20/1999		39.82	111.73
	12/27/1999		48.95	102.60
	4/11/2000		42.55	109.00
	10/31/2000		42.21	109.34
	4/4/2001		40.08	111.47
	10/30/2001		44.46	107.09
	4/10/2002		41.82	109.73
	10/23/2002		50.09	101.46
	4/8/2003		44.29	107.26
	10/9/2003		52.60	98.95
	5/17/2004		54.58	96.97

**TABLE 1**  
**HISTORICAL GROUNDWATER ELEVATION DATA**  
**PILOT CHEMICAL**

Well Identification	Date Measured	Elevation <sup>1</sup> (feet)	Depth to Water <sup>2</sup> (feet)	Groundwater Elevation <sup>3</sup> (feet)
MW-9	6/22/1995	151.60	31.72	119.88
	9/25/1995		34.26	117.34
	12/19/1995		38.42	113.18
	3/27/1996		34.50	117.10
	1/21/1997		35.75	115.85
	4/24/1997		33.60	118.00
	5/14/1997		33.61	117.99
	10/22/1997		37.41	114.19
	5/12/1998		32.71	118.89
	11/17/1998		36.48	115.12
	8/19/1999		40.40	111.20
	12/27/1999		49.68	101.92
	4/11/2000		43.60	108.00
	10/31/2000		43.19	108.41
	4/4/2001		41.08	110.52
	10/30/2001		45.33	106.27
	4/10/2002		42.76	108.84
	10/23/2002		50.98	100.62
	4/8/2003		45.38	106.22
	10/9/2003		53.30	98.30
	5/17/2004		55.50	96.10
MW-10	6/22/1995	153.16	32.32	120.84
	9/25/1995		34.98	118.18
	12/19/1995		38.92	114.24
	3/27/1996		34.92	118.24
	1/21/1997		55.35 <sup>6</sup>	97.81
	4/24/1997		34.10	119.06
	5/14/1997		34.11	119.05
	10/22/1997		37.98	115.18
	5/12/1998		33.12	120.04
	11/17/1998		36.98	116.18
	8/19/1999		41.12	112.04
	12/27/1999		50.31	102.85
	4/11/2000		43.83	109.33
	10/31/2000		43.50	109.66
	4/4/2001		41.41	111.75
	10/30/2001		45.81	107.35
	4/10/2002		43.16	110.00
	10/23/2002		51.39	101.77
	4/8/2003		45.72	107.44
	10/9/2003		53.98	99.18
	5/17/2004		55.84	97.32

**TABLE 1**  
**HISTORICAL GROUNDWATER ELEVATION DATA**  
**PILOT CHEMICAL**

Well Identification	Date Measured	Elevation <sup>1</sup> (feet)	Depth to Water <sup>2</sup> (feet)	Groundwater Elevation <sup>3</sup> (feet)
MW-11	6/22/1995	152.48	31.49	120.99
	9/25/1995		33.96	118.52
	12/19/1995		37.63	114.85
	3/27/1996		33.85	118.63
	1/21/1997		34.92	117.56
	4/24/1997		35.21	117.27
	5/14/1997		33.17	119.31
	10/22/1997		36.94	115.54
	5/12/1998		32.31	120.17
	11/17/1998		36.10	116.38
	8/19/1999		40.02	112.46
	12/27/1999		48.93	103.55
	4/11/2000		42.79	109.69
	10/31/2000		42.33	110.15
	4/4/2001		40.36	112.12
	10/30/2001		44.60	107.88
	4/10/2002		42.08	110.40
	10/23/2002		50.08	102.40
	4/8/2003		44.55	107.93
	10/9/2003		52.59	99.89
	5/17/2004		54.72	97.76

Notes:

- 1 mean sea level elevation - top of well casing.
- 2 depth of water from top of well casing.
- 3 mean sea level elevation - groundwater table
- 4 elevation of original monitor well MW-1; calculated groundwater elevations are approximate.
- 5 surveyed elevation of replacement well MW-1
- 6 suspect measurement

TABLE 2  
HISTORICAL GROUNDWATER ANALYTICAL RESULTS  
PILOT CHEMICAL COMPANY  
SANTA FE SPRINGS, CALIFORNIA

Monitoring Well	Date	TPH (mg/L)	pH units	MBAS (mg/L)	1,1-DCA (ug/L)	1,1-DCE (ug/L)	PCE (ug/L)	Carbon Tetrachloride (ug/L)	Chloroform (ug/L)	1,2-DCA (ug/L)	TCE (ug/L)	Benzene (ug/L)	Ethylbenzene (ug/L)	Toluene (ug/L)	Total Xylenes (ug/L)	
MW-1	Apr-91	7.39	0.80					NA <sup>1</sup>	NA	NA	NA	ND <sup>2</sup> (2,500) <sup>3</sup>	3,600	18,000	12,000	
	Jan-94	7.0	0.90					ND (500)	ND (500)	ND (500)	ND (500)	ND (500)	9,700	52,000	59,000	
	Apr-94	7.5	6.0	ND (25)				ND (25)	68	910	ND (25)	ND (5,000)	29,000	220,000	130,000	
	Jul-94	7.2	7.5	ND (20)				ND (20)	28	48	870	ND (20)	ND (5,000)	9,300	26,000	
	Nov-94	NA	NA	NA				NA	NA	NA	NA	ND (5,000)	26,000	40,000		
	Jun-95	NA	NA	NA				NA	NA	NA	NA	NA	NA	NA	NA	
	Sep-95	15.0	7.0	60	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	4,200	ND (250)	ND (250)	48,000	56,000	319,000	
	Dec-95	7.2	7.2	170	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	2,600	ND (50)	ND (5,000)	40,000	55,000	224,000	
	Mar-96	16.0	7.1	29	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	3,200	ND (250)	ND (5,000)	58,000	85,000	282,000	
	Jan-97	15.0	6.95	72	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	51	3,700	ND (50)	ND (5,000)	34,000	96,000	200,000
	Apr-97	19.0	7.11	25	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	3,300	ND (50)	ND (5,000)	48,000	73,000	310,000	
	Oct-97	6.5	6.85	33	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	3,700	ND (50)	52	23,000	65,000	110,000	
	May-98	7.9	7.01	18	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	2,200	ND (250)	ND (250)	35,000	110,000	200,000	
	Nov-98	ND (1.0)	7.1	400	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	2,700	ND (250)	ND (250)	47,000	44,000	340,000	
	Aug-99	ND(0.5)	7.25	11.9	ND (25)	ND (25)	ND (25)	ND (25)	ND (25)	760	ND (25)	68	20,200	57,000	85,300	
	Dec-99	ND(0.5)	7.00	5.72	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	700	ND (250)	ND (250)	19,800	71,000	96,900	
	Apr-00	ND(0.5)	7.21	6.22	ND (500)	ND (500)	ND (500)	ND (500)	ND (500)	736.0	670	ND (500)	ND (500)	22,600	71,300	116,500
	Oct-00	ND(0.5)	7.19	4.75	568.0	ND (500)	ND (500)	ND (500)	ND (500)	ND (500)	ND (500)	ND (500)	ND (500)	23,100	77,500	74,100
	Apr-01	ND(0.5)	7.23	4.40	ND (500)	ND (500)	ND (500)	ND (500)	ND (500)	243J	430J	ND (500)	ND (500)	15,800	51,100	51,300
	Oct-01	ND (0.5)	7.15	5.57	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	138,000	227,000
	Apr-02	ND (0.5)	7.15	8.60	ND (500)	ND (500)	ND (500)	ND (500)	ND (500)	ND (500)	ND (500)	ND (500)	ND (500)	16,900	56,100	91,900
	Oct-02	ND (0.5)	7.06	9.70	ND (500)	ND (500)	ND (500)	ND (500)	ND (500)	500	ND (500)	ND (500)	ND (500)	24,200	84,800	129,000
	Apr-03	ND (0.5)	7.06	36.70	ND (500)	ND (500)	ND (500)	ND (500)	ND (500)	ND (500)	ND (500)	ND (500)	ND (500)	15,300	52,300	84,400
	Oct-03	ND (0.5)	7.08	42.5	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	52,000	89,500
	May-04	38.7	6.97	48.9	ND (1,250)	ND (1,250)	ND (1,250)	ND (1,250)	ND (1,250)	ND (1,250)	ND (1,250)	ND (1,250)	ND (1,250)	31,500	95,000	178,000
MW-2	Apr-91	7.29	0.20					NA	NA	NA	NA	ND (500)	970	7,500	4,000	
	Jan-94	7.3	1.50					ND (130)	ND (130)	ND (130)	ND (130)	ND (130)	590	1,700	3,500	
	Apr-94	7.7	1.20	ND (5)				ND (5)	ND (5)	ND (5)	ND (5)	ND (500)	12,000	29,000	47,600	
	Jul-94	7.7	11	ND (20)				ND (20)	ND (20)	ND (20)	ND (20)	ND (250)	13,000	12,000	20,600	
	Nov-94	6.7	0.68	ND (1,330)				ND (1,330)	ND (1,330)	ND (1,330)	ND (1,330)	ND (1,330)	9,300	73,000	44,000	
	Jun-95	ND (0.5)	7.2	6.70	ND (50)			ND (50)	ND (50)	1,800	ND (50)	ND (5,000)	3,700	61,000	27,800	
	Sep-95	0.70	7.1	11	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	2,300	ND (500)	ND (50)	2,300	29,000	12,600	
	Dec-95	0.77	7.2	11	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	1,600	ND (50)	ND (500)	9,200	86,000	41,700	
	Mar-96	ND (0.5)	7.3	8.20	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (500)	6,200	41,000	22,400	
	Jan-97	1.3	6.82	69	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (500)	14,000	140,000	81,000	
	Apr-97	1.9	6.94	1.90	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (500)	13,000	140,000	87,000	
	Oct-97	0.94	6.70	0.53	ND (500)	ND (500)	ND (500)	ND (500)	ND (500)	ND (500)	ND (500)	ND (500)	15,000	180,000	63,000	
	May-98	0.43	7.03	1.10	ND (500)	ND (500)	ND (500)	ND (500)	ND (500)	ND (500)	ND (500)	ND (500)	6,100	120,000	30,000	
	Nov-98	1.0	7.2	38	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	8,500	62,000	44,000	
	Aug-99	ND (0.5)	6.97	13.8	ND (25)	ND (25)	ND (25)	ND (25)	ND (25)	ND (25)	ND (25)	ND (25)	6,600	46,500	28,700	
	Dec-99	ND (0.5)	7.10	1.75	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	5,260	39,300	23,800	
	Apr-00	ND (0.5)	7.14	2.79	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	4,300	31,900	19,820	
	Oct-00	ND (0.5)	7.04	3.52	3,270	ND (500)	ND (500)	ND (500)	ND (500)	ND (500)	ND (500)	ND (500)	10,500	81,800	30,500	
	Apr-01	ND (0.5)	7.22	3.95	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	3,360	20,000	9,310	
	Oct-01	ND (0.5)	7.03	0.32	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	94,100	7,260	
	Apr-02	ND (0.5)	7.02	6.68	ND (1,000)	ND (1,000)	ND (1,000)	ND (1,000)	ND (1,000)	ND (1,000)	ND (1,000)	ND (1,000)	6,230	52,500	34,800	
	Oct-02															

TABLE 2  
HISTORICAL GROUNDWATER ANALYTICAL RESULTS  
PILOT CHEMICAL COMPANY  
SANTA FE SPRINGS, CALIFORNIA

Monitoring Well	Date	TPH (mg/L)	pH units	MBAS (mg/L)	1,1-DCA (ug/L)	1,1-DCE (ug/L)	PCE (ug/L)	Carbon Tetrachloride (ug/L)	Chloroform (ug/L)	1,2-DCA (ug/L)	TCE (ug/L)	Benzene (ug/L)	Ethylbenzene (ug/L)	Toluene (ug/L)	Total Xylenes (ug/L)	
MW-3	Apr-91		7.17	2.00				NA	NA	NA	NA	ND (13,000)	14,000	110,000	52,000	
	Jan-94		6.9	1.10				ND (500)	ND (500)	ND (500)	ND (500)	ND (500)	15,000	24,000	68,000	
	Apr-94		7.4	6.60	ND (5)		ND (5)	9.2	5.1	16	ND (5)	ND (500)	14,000	21,000	25,500	
	Jul-94		7.0	10	ND (20)		ND (20)	ND (20)	ND (20)	ND (20)	ND (20)	ND (100)	6,500	2,800	2,360	
	Nov-94		6.7	0.46	ND (250)		ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	11,000	12,000	8,900	
	Jun-95	ND(0.5)	7.0	5	ND (0.5)		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (500)	7,800	7,400	6,900	
	Sep-95	0.65	6.9	11	ND (5)	ND (5)	ND (5)	15	ND (5)	52	ND (5)	8.2	7,200	1,200	15,500	
	Dec-95 <sup>5</sup>	0.88	7.1	5	ND (5)	ND (5)	ND (5)	28	13	220	ND (5)	ND (500)	3,900	47,000	44,900	
	Mar-96	0.93	7.2	9.20	ND (5)	ND (5)	ND (5)	8.7	14	7.8	26	ND (500)	10,000	21,000	29,800	
	Jan-97	0.76	7.03	14	ND (5)	ND (5)	ND (5)	ND (5)	7.0	6.4	25.0	ND (5)	ND (500)	11,000	12,000	32,000
	Apr-97	1.70	6.85	9	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	5.1	2.4	38.0	1.2	8.7	5,500	2,800	5,600
	Oct-97	0.34	6.86	6.90	ND (13)	ND (13)	ND (13)	ND (13)	ND (13)	ND (13)	130	ND (13)	ND (13)	6,800	4,400	5,000
	May-98	ND (0.5)	7.23	1.50	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	460	1,100	1,800
	Nov-98	0.68	7.20	4.10	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	77	ND (50)	ND (50)	4,600	15,000	20,000
	Aug-99	ND (0.5)	7.26	3.30	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	52	ND (5)	ND (5)	2,730	5,210	9,480
	Dec-99	ND (0.5)	7.30	2.11	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	70	ND (50)	ND (50)	3,100	12,200	10,720
	Apr-00	ND (0.5)	7.28	2.77	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	155	ND (50)	ND (50)	5,600	25,800	20,830
	Oct-00	ND (0.5)	7.33	2.16	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	51	ND (50)	ND (50)	4,620	11,000	11,100
	Apr-01	ND (0.5)	7.34	1.28	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	45J	ND (50)	ND (50)	4,670	7,340	11,680
	Oct-01	ND (0.5)	7.32	1.32	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	18,200	35,500
	Apr-02	ND (0.5)	7.08	3.03	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	3,170	10,300	15,900
	Oct-02	ND (0.5)	7.11	3.02	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	4,030	7,670	13,700
	Apr-03	ND (0.5)	7.20	2.41	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	7,400	12,400	32,700
	Oct-03	ND (0.5)	7.21	3.69	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	55.0	ND (50)	ND (50)	3,610	8,000	14,500
	May-04	ND (0.5)	7.16	4.61	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	140.0	ND (100)	ND (100)	5,280	14,000	19,800
MW-4	Apr-91		NA	NA				NA	NA	NA	NA	NA	NA	NA	NA	
	Jan-94		7.2	ND (0.5)				ND (0.5)	ND (0.5)	ND (0.5)	1.4	ND (0.5)	7.5	29	31	
	Apr-94		7.5	0.058	ND (0.5)			ND (0.5)	ND (0.5)	ND (0.5)	2.5	ND (5)	37	210	116	
	Jul-94		7.3	1.60	ND (0.5)			1.0	ND (0.5)	ND (0.5)	5.4	ND (0.5)	13	52	33	
	Nov-94		6.8	0.10	ND (5)			ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	83	200	180	
	Jun-95	ND(0.5)	7.3	0.04	ND(0.5)			0.91	ND (0.5)	ND (0.5)	2.7	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
	Sep-95	0.58	7.0	0.66	0.82	ND (0.5)	ND (0.5)	0.98	ND (0.5)	ND (0.5)	2.1	3.1	6.0	66	180	154
	Dec-95	0.82	7.2	2.10	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	76	6.2	ND (500)	9,200	19,000	38,100
	Mar-96 <sup>7</sup>	ND (0.5)	7.4	0.21	ND (0.5)	ND (0.5)	ND (0.5)	4.8	1.20	ND (0.5)	11	1.2	ND (0.5)	54 <sup>4</sup>	110 <sup>4</sup>	196 <sup>4</sup>
	Jan-97	ND (0.5)	6.95	ND (.10)	0.52	ND (0.5)	ND (0.5)	1.2	ND (0.5)	ND (0.5)	27	2.3	ND (5)	49	51	330
	Apr-97	ND (0.05)	7.02	0.28	ND (0.5)	ND (0.5)	ND (0.5)	1.3	ND (0.5)	ND (0.5)	17	3.0	ND (0.5)	8.7	4.8	10
	Oct-97	ND (0.05)	6.6	0.15	ND (0.5)	ND (0.5)	ND (0.5)	1.3	ND (0.5)	ND (0.5)	21	3.1	ND (0.5)	28	19	26
	May-98	ND (0.05)	7.48	0.33	ND (0.5)	ND (0.5)	ND (0.5)	1.7	ND (0.5)	ND (0.5)	14	3.1	ND (0.5)	5.5	1.4	5.8
	Nov-98	ND (0.05)	7.4	0.27	ND (0.5)	ND (0.5)	ND (0.5)	1.4	0.78	0.56	8.4	2.2	ND (0.5)	270	49	93
	Aug-99	ND (0.5)	7.34	0.30	ND (0.5)	ND (0.5)	ND (0.5)	1.0	ND (0.5)	ND (0.5)	16.6	1.9	ND (0.5)	93.8	117	83.6
	Dec-99	ND (0.5)	7.41	0.23	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	10.9	2.2	ND (0.5)	6.9	ND (0.5)	3.5
	Apr-00	ND (0.5)	7.41	0.26	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	11.2	ND (0.5)	ND (0.5)	15.3	43	47
	Oct-00	ND (0.5)	7.39	0.25	ND (0.5)	ND (0.5)	ND (0.5)	1.1	ND (0.5)	ND (0.5)	1.4	2.1	ND (0.5)	43.4	21.4	17.7
	Apr-01	ND (0.5)	7.40	0.19	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	8.0	ND (5)	ND (5)	105.0	403.0	195.0
	Oct-01	ND (0.5)	7.38	ND (0.05)	ND (0.5)	ND (0.5)	ND (0.5)	1.0	ND (0.5)	ND (0.5)	ND (0.5)	1.0	ND (0.5)	ND (0.5)	ND (0.5)	2.5
	Apr-02	ND (0.5)	7.38	0.10	ND (0.5)	ND (0.5)	ND (0.5)	0.7	ND (0.5)	ND (0.5)	2.1	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)
	Oct-02	ND (0.5)	7.32	0.12	ND (0.5)	ND (0.5)	ND (0.5)	1.0	ND (0.5)	ND (0.5)	5.4	2.1				

TABLE 2  
HISTORICAL GROUNDWATER ANALYTICAL RESULTS  
PILOT CHEMICAL COMPANY  
SANTA FE SPRINGS, CALIFORNIA

Monitoring Well	Date	TPH (mg/L)	pH units	MBAS (mg/L)	1,1-DCA (ug/L)	1,1-DCE (ug/L)	PCE (ug/L)	Carbon Tetrachloride (ug/L)	Chloroform (ug/L)	1,2-DCA (ug/L)	TCE (ug/L)	Benzene (ug/L)	Ethylbenzene (ug/L)	Toluene (ug/L)	Total Xylenes (ug/L)	
MW-5	Apr-91		7.28	0.2				NA	NA	NA	NA	3.2	ND (0.5)	1.2	ND (1)	
	Jan-94		7.3	1.5				660	120	ND (10)	ND (10)	ND (10)	ND (10)	18	44	
	Apr-94		7.6	0.57	ND (2.5)			ND (2.5)	470 <sup>4</sup>	120	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	
	Jul-94		7.5	4.10	ND (5)			ND (5)	370 <sup>4</sup>	98	ND (5)	ND (5)	110	370 <sup>4</sup>	286	
	Nov-94		7.3	0.95	ND (25)			ND (25)	900	320	26	ND (25)	ND (25)	35	ND (75)	
	Jun-95	ND(0.5)	7.5	0.73	ND(5)			ND(5)	460 <sup>4</sup>	230	ND(5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)	
	Sep-95 <sup>6</sup>	ND(0.5)	7.4	1.7	ND(5)	ND(5)	ND(5)	ND(5)	520	280	ND(5)	ND(5)	14	61	50.5	
	Dec-95	ND(0.5)	7.6	1.9	ND(500)	ND(500)	ND(500)	ND(500)	ND(500)	ND(500)	ND(500)	ND(500)	ND(500)	ND(500)	ND(500)	
	Mar-96	ND (0.5)	7.7	1.4	ND (5)	ND (5)	ND (5)	ND (5)	340	160	ND (5)	ND (5)	ND (0.5)	3.5	3.6	
	Jan-97	ND (0.5)	7.4	5	ND (5)	ND (5)	ND (5)	ND (5)	750	310	ND (5)	ND (5)	ND (0.5)	12	79	
	Apr-97	0.29	7.38	4.8	ND (5)	ND (5)	ND (5)	ND (5)	930	330	ND (5)	ND (5)	ND (0.5)	2.8	4.6	
	Oct-97 <sup>10</sup>	0.56	7.2	1.1	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	7.7	1,400	560	ND (2.5)	ND (2.5)	ND (2.5)	ND (7.5)	
	May-98	ND (0.5)	7.47	0.81	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	3.3	490	120	ND (0.5)	2.3	ND (0.5)	1.0	
	Nov-98	ND (0.5)	7.5	1.4	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	3.1	390	130	ND (0.5)	1.2	ND (0.5)	ND (0.5)	
	Aug-99	ND (0.5)	7.34	2.37	ND (5)	ND (5)	ND (5)	ND (5)	483	218	ND (5)	ND (5)	ND (5)	ND (5)	ND (10)	
	Dec-99	ND (0.5)	7.37	1.36	ND (5)	ND (5)	ND (5)	ND (5)	385	137	ND (5)	ND (5)	ND (5)	ND (5)	ND (10)	
	Apr-00	ND (0.5)	7.40	1.00	ND (5)	ND (5)	ND (5)	ND (5)	17.00	316	126	ND (5)	ND (5)	ND (5)	ND (10)	
	Oct-00	ND (0.5)	7.42	1.02	ND (5)	ND (5)	ND (5)	ND (5)	11.0	179	82	ND (5)	ND (5)	ND (5)	ND (10)	
	Apr-01	ND (0.5)	7.45	1.18	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	4.2	199	97	ND (0.5)	1.50	ND (0.5)	ND (0.5)	
	Oct-01	ND (0.5)	7.36	1.13	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	185	86	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)	
	Apr-02	ND (0.5)	7.39	1.45	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	3.0	151	73	ND (2.5)	ND (2.5)	ND (2.5)	ND (5.0)	
	Oct-02	ND (0.5)	7.37	0.76	ND (5)	ND (5)	ND (5)	ND (5)	173	70	ND (5)	ND (5)	ND (5)	ND (5)	ND (10)	
	Apr-03	ND (0.5)	7.34	0.53	ND (0.55)	ND (0.5)	ND (0.5)	ND (0.5)	3.4	ND (0.5)	49	ND (0.5)	2.5	ND (0.5)	ND (0.5)	
	Oct-03	ND (0.5)	7.35	1.73	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	3.4	1.84	82	ND (2.5)	.71J	ND (2.5)	.89J	
	May-04	ND (0.5)	7.37	0.25	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	2.5	70.0	34.5	6.0	2.5	ND (2.5)	ND (5.0)	
MW-6	Apr-91		7.27	ND (0.1)				NA	NA	NA	NA	0.61	ND (0.5)	ND (0.5)	ND (1)	
	Jan-94		7.4	1.1					49	25	7.1	ND (1.3)	ND (1.3)	ND (1.3)	ND (3.8)	
	Apr-94		7.6	1.4	ND (0.5)			0.74	39 <sup>4</sup>	25 <sup>4</sup>	ND (0.5)	1.4 <sup>4</sup>	ND (0.5)	0.67	ND (0.5)	
	Jul-94		7.6	0.7	ND (0.5)			0.65	38 <sup>4</sup>	28	ND (0.5)	1.5	ND (0.5)	21	42 <sup>4</sup>	
	Nov-94		7.5	1.4	ND (1.0)			ND (1.0)	38	21	7.9	1.0	ND (1.0)	6.7	30	
	Jun-95	ND(0.5)	7.5	0.48	ND(5)			ND(5)	110	36	ND(5)	ND(5)	ND(0.5)	ND(0.5)	0.72	
	Sep-95	ND(0.5)	7.5	1	ND(5)	ND(5)	ND(5)	ND(5)	150	66	13	ND(5)	ND(5)	26	89	
	Dec-95	ND(0.5)	7.6	2.7	ND(500)	ND(500)	ND(500)	ND(500)	ND(500)	ND(500)	ND(500)	ND(500)	ND(500)	ND(500)	ND(500)	
	Mar-96 <sup>8</sup>	ND (0.5)	7.6	2.2	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	3.50	270	120	24	0.88	ND (0.5)	3.6	
	Jan-97	ND (0.5)	7.56	2.5	ND (5)	ND (5)	ND (5)	ND (5)	81	99	14	ND (5)	ND (0.5)	ND (0.5)	4.1	
	Apr-97	0.61	7.49	0.54	ND (5)	ND (5)	ND (5)	ND (5)	91	130	20	ND (5)	ND (0.5)	ND (0.5)	6.7	
	Oct-97 <sup>11</sup>	0.21	7.03	3.1	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	1.3	55	210	33	0.65	ND (0.5)	ND (0.5)	
	May-98 <sup>12</sup>	0.17	7.43	0.81	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	2.3	130	47	ND (0.5)	4.5	ND (0.5)	2.4	
	Nov-98	0.45	7.4	2	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	2.6	81	79	21	1.7	0.65	ND (0.5)	
	Aug-99	ND (0.5)	7.21	4.46	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	183	143	36	ND (2.5)	ND (2.5)	ND (2.5)	ND (5)	
	Dec-99	ND (0.5)	7.31	1.57	ND (5)	ND (5)	ND (5)	ND (5)	291	177	23	ND (5)	ND (5)	ND (5)	ND (10)	
	Apr-00	ND (0.5)	7.36	2.67	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	2.00	105	76	15.9	1.30	ND (0.5)	ND (0.5)	
	Oct-00	ND (0.5)	7.38	1.76	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	2.10	48.6	47.4	14.9	1.50	ND (0.5)	ND (0.5)	
	Apr-01	ND (0.5)	7.40	1.47	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	2.50	40.7	50.1	16.4	1.50	ND (0.5)	ND (0.5)	
	Oct-01 <sup>19</sup>	ND (0.5)	7.30	2.80	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	23.0	111.0	90.0	20.0	302.0	ND (0.5)	ND (0.5)	
	Apr-02	ND (0.5)	7.33	1.70	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	2.0	26.4	27.0	9.1	1.0	ND (0.5)	ND (0.5)	
	Oct-02	ND (0.5)	7.31	1.30	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	60.0	48.0	8.0	ND (2.5)	ND (2.5)	ND (2.5)	ND (5)	
	Apr-03	ND (0.5)	7.34	0.77	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	2.7	37.3	34.9	ND (0.5)	2.4	ND (0.5)	ND (0.5)	
	Oct-03	ND (0.5)	7.32	2.88	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	2.3J	77.0	71.0	11.0	ND (2.5)	ND (2.5)	ND (2.5)	ND (5.0)
	May-04	ND (0.5)	7.39	1.02	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)</td								

TABLE 2  
HISTORICAL GROUNDWATER ANALYTICAL RESULTS  
PILOT CHEMICAL COMPANY  
SANTA FE SPRINGS, CALIFORNIA

Monitoring Well	Date	TPH (mg/L)	pH units	MBAS (mg/L)	1,1-DCA (ug/L)	1,1-DCE (ug/L)	PCE (ug/L)	Carbon Tetrachloride (ug/L)	Chloroform (ug/L)	1,2-DCA (ug/L)	TCE (ug/L)	Benzene (ug/L)	Ethylbenzene (ug/L)	Toluene (ug/L)	Total Xylenes (ug/L)	
MW-7	Apr-91	7.44	ND (0.1)					NA	NA	NA	NA	ND (2)	4.7	6.1	ND (4)	
	Jan-94	6.9	ND (0.5)					11	11	24	2.6	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.5)	
	Apr-94	7.5	0.53	ND (0.5)			ND (0.5)	8.9 <sup>4</sup>	11	494	1.6	ND (0.5)	1.6	4.7	3.76	
	Jul-94	7.4	1.2	ND (0.5)			ND (0.5)	7.4	6.6	54	1.6	ND (0.5)	9.2	22	27.5	
	Nov-94	6.8	1.5	ND (25)			ND (25)	51	44	1,100	ND (25)	ND (25)	ND (25)	420	100	
	Jun-95	ND (0.5)	7.4	0.17	ND (0.5)		ND (0.5)	4.6	6.6	68 <sup>4</sup>	ND (0.5)	ND (5)	200	230	520	
	Sep-95	ND (0.5)	7.4	0.5	ND (0.5)	ND (0.5)	0.61	8.8	8.8	65	2.6	ND (0.5)	30	26	32.2	
	Dec-95	ND (0.5)	7.6	3.8	ND (5)	ND (5)	ND (5)	18	11	310	ND (5)	ND (5)	51	7.0	32	
	Mar-96	ND (0.5)	7.6	2.1	ND (0.5)	ND (0.5)	3.3	1.9	18	110	0.97	0.8	26	90	119	
	Jan-97	ND (0.5)	7.22	8.1	ND (5)	ND (5)	ND (5)	34	38	510	ND (5)	1.8	ND (0.5)	ND (0.5)	4.3	
	Apr-97	0.25	7.67	2.5	ND (5)	ND (5)	ND (5)	13	14	240	ND (5)	ND (5)	18	6.9	150	
	Oct-97	ND (0.05)	7.24	0.61	ND (0.5)	ND (0.5)	0.74	10	12	210	0.77	0.54	0.99	0.67	3.1	
	May-98	ND (0.05)	7.46	0.54	ND (0.5)	ND (0.5)	1.5	6.6	7.6	26	2.5	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.5)	
	Nov-98	ND (0.05)	7.5	0.76	ND (0.5)	ND (0.5)	1.3	1.9	2.3	25	2.0	ND (0.5)	0.59	ND (0.5)	4.4	
	Aug-99	ND (0.05)	7.41	0.47	ND (0.5)	ND (0.5)	ND (0.5)	6.1	6.7	24.8	1.0	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)	
	Dec-99	ND (0.5)	7.34	0.98	ND (0.5)	ND (0.5)	ND (0.5)	4.3	8.4	42.1	1.5	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)	
	Apr-00	ND (0.5)	7.35	1.18	ND (0.5)	ND (0.5)	1.1	11.2	19.9	60.3	2.6	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)	
	Oct-00	ND (0.5)	7.49	3.12	ND (0.5)	ND (0.5)	0.7	1.7	1.2	17.1	1.8	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)	
	Apr-01	ND (0.5)	7.48	0.26	ND (0.5)	ND (0.5)	0.9	0.7	0.7	18.7	2.0	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)	
	Oct-01	ND (0.5)	7.36	2.01	ND (0.5)	ND (0.5)	0.9	1.2	2.4	11.9	1.2	1.4	ND (0.5)	ND (0.5)	ND (1.0)	
	Apr-02	ND (0.5)	7.35	1.25	ND (1.0)	ND (1.0)	ND (1.0)	1.7	4.7	41.1	1.3	ND (1.0)	ND (1.0)	ND (1.0)	ND (2.0)	
	Oct-02	ND (0.5)	7.35	1.84	ND (2.5)	ND (2.5)	ND (2.5)	3	8.0	66.0	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (5)	
	Apr-03	ND (0.5)	7.37	0.72	ND (0.5)	ND (0.5)	0.9	2.8	5.2	ND (0.5)	2.8	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)	
	Oct-03	ND (0.5)	7.38	1.45	ND (0.5)	ND (0.5)	0.65	0.5	3.27	33.9	1.23	4.7J	.34J	6.52	10.3	
	May-04	ND (0.5)	7.36	0.23	ND (0.5)	ND (0.5)	0.9	1.8	3.10	8.6	1.6	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)	
MW-8	Apr-91	7.2	ND (0.1)					NA	NA	NA	NA	ND (50)	180	550	740	
	Jan-94	7.4	0.5					ND (130)	ND (130)	ND (130)	ND (130)	ND (130)	3,400	12,000	21,000	
	Apr-94	7.8	0.43	ND (5)			ND (5)	ND (5)	10	ND (5)	ND (5)	ND (250)	3,400	7,600	12,400	
	Jul-94	7.9	1.3	ND (5)			ND (5)	27	21	22	3.0	39	2400 <sup>4</sup>	2800 <sup>4</sup>	10000 <sup>4</sup>	
	Nov-94	7.5	0.86	ND (1,000)			ND (1,000)	ND (1,000)	ND (1,000)	ND (1,000)	ND (1,000)	ND (1,000)	6,200	27,000	23,000	
	Jun-95	ND (0.5)	7.5	0.3	ND (5)		ND (5)	ND (5)	25	ND (5)	ND (5)	ND (50)	400	160	5,900	
	Sep-95	ND (0.5)	7.6	2.8	ND (5)	ND (5)	ND (5)	ND (5)	17	ND (5)	ND (5)	ND (500)	2,000	1,500	8,300	
	Dec-95	ND (0.5)	7.9	1.8	ND (5)	ND (5)	ND (5)	ND (5)	22	51	7.5	ND (5)	ND (500)	ND (500)	7,800	
	Mar-96	ND (0.5)	7.6	1	ND (0.5)	ND (0.5)	9.4	5.8	24	2.4	0.76	ND (5)	400	13	1,470	
	Jan-97	0.65	7.41	0.88	ND (5)	ND (5)	ND (5)	ND (5)	11	ND (5)	ND (5)	ND (50)	2,300	ND (50)	3,600	
	Apr-97	0.30	7.37	2.7	ND (1)	ND (1)	ND (1)	ND (1)	3.8	ND (1)	ND (1)	6.5	530	17	ND (750)	
	Oct-97	ND (0.05)	7.19	0.12	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	4,800	290	14,000	
	May-98	ND (0.05)	7.38	0.91	ND (0.5)	ND (0.5)	1.6	160	51	ND (0.5)	2.2	ND (0.5)	72	39	260	
	Nov-98	6.5	7.9	1.9	ND (25)	ND (25)	ND (25)	ND (25)	ND (25)	ND (25)	ND (25)	ND (25)	30	2,700	160	7,300
	Aug-99	ND (0.5)	7.33	0.75	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	97	49	7.5	ND (2.5)	23	25	60	
	Dec-99	ND (0.5)	7.40	3.02	ND (25)	ND (25)	140	ND (25)	ND (25)	65.0	ND (25)	ND (25)	695	775	4,180	
	Apr-00	ND (0.5)	7.39	0.59	ND (0.5)	ND (0.5)	1.5	17.4	26.2	11.4	2.5	ND (0.5)	12.8	75.4	63	
	Oct-00	ND (0.5)	7.41	ND (0.05)	ND (0.5)	ND (0.5)	1.2	22.2	13.3	3.0	1.2	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)	
	Apr-01	ND (0.5)	7.45	0.24	ND (0.5)	ND (0.5)	0.9	16.7	10.9	3.4	1.1	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)	
	Oct-01	ND (0.5)	7.42	0.27	ND (0.5)	ND (0.5)	1	10.2	7.1	1.4	1.0	ND (0.5)	ND (0.5)	3.8	22.9	
	Apr-02	ND (0.5)	7.41	0.27	ND (0.5)	ND (0.5)	0.8	16.6	13.3	5.1	1.0	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)	
	Oct-02	ND (0.5)	7.34	0.48	ND (0.5)	ND (0.5)	0.8	4.7	7.5	8.6	1.4	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)	
	Apr-03	ND (0.5)	7.36	0.3	ND (0.5)	ND (0.5)	0.7	4.7	5.4	1.7	1.8	ND (0.5)	4.3	7.5	16.9	
	Oct-03	ND (0.5)	7.39	0.47	ND (0.5)	ND (0.5)	0.68	2.19	6.77	7.53	1.02	0.52	ND (0.5)	6.86	54.7	
	May-04	ND (0.5)	7.32	0.48	ND (0.5)	ND (0.5)	2.6	8.0	12.1	13						

**TABLE 2**  
**HISTORICAL GROUNDWATER ANALYTICAL RESULTS**  
**PILOT CHEMICAL COMPANY**  
**SANTA FE SPRINGS, CALIFORNIA**

Monitoring Well	Date	TPH (mg/L)	pH units	MBAS (mg/L)	1,1-DCA ( $\mu$ g/L)	1,1-DCE ( $\mu$ g/L)	PCE ( $\mu$ g/L)	Carbon Tetrachloride ( $\mu$ g/L)	Chloroform ( $\mu$ g/L)	1,2-DCA ( $\mu$ g/L)	TCE ( $\mu$ g/L)	Benzene ( $\mu$ g/L)	Ethylbenzene ( $\mu$ g/L)	Toluene ( $\mu$ g/L)	Total Xylenes ( $\mu$ g/L)	
MW-11	Apr-91		7.39	2.2				NA	NA	NA	NA	ND (0.5)	0.95	1	7.6	
	Jan-94		7.1	1.4				ND (1.3)	ND (1.3)	35	3.3	ND (1.3)	ND (1.3)	ND (1.3)	ND (3.8)	
	Apr-94		7.4	18	ND (0.5)		2.4	ND (0.5)	1.3	54 <sup>4</sup>	5.1	1.2	4.7	0.69	1.5	
	Jul-94		7.3	11	ND (10)		ND (10)	ND (10)	ND (10)	ND (10)	80	ND (10)	92	340	327	
	Nov-94		6.9	1.7	ND (2.5)		ND (2.5)	2.6	ND (2.5)	100	5.3	9.6	4.1	10	7.5	
	Jun-95	ND (0.5)	7.3	1	ND (5)		ND (5)	ND (5)	ND (5)	12	ND (5)	ND (0.5)	ND (0.5)	ND (0.5)	11	
	Sep-95	ND (0.5)	7.1	8.3	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	83	ND (50)	ND (5)	110	530	353	
	Dec-95	0.68	7.2	23	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	90	ND (5)	ND (5)	18	ND (5)	21	
	Mar-96	0.8	7.2	24	ND (5)	ND (5)	6.9	ND (5)	ND (5)	73	ND (5)	ND (5)	47	25	83	
	Jan-97	0.62	7.14	9.8	ND (5)	ND (5)	5.2	ND (5)	ND (5)	38	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	
	Apr-97	0.52	7.13	7.9	ND (1)	ND (1)	3.6	ND (1)	ND (1)	30	3.3	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.5)	
	Oct-97	ND (0.05)	6.82	9.7	ND (0.5)	ND (0.5)	4.3	ND (0.5)	ND (0.5)	28	5.2	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.5)	
	May-98 <sup>13</sup>	ND (0.05)	6.95	7.9	ND (0.5)	ND (0.5)	4	ND (0.5)	ND (0.5)	ND (0.5)	3.9	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.5)	
	Nov-98	ND (0.05)	7.1	21	ND (0.5)	ND (0.5)	3.9	ND (0.5)	ND (0.5)	27	5.2	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.5)	
	Aug-99	ND (0.5)	6.97	11.4	ND (0.5)	ND (0.5)	2.7	ND (0.5)	ND (0.5)	20.2	4.2	3.8	ND (0.5)	ND (0.5)	2.3	
	Dec-99	ND (0.5)	7.07	3.77	ND (0.5)	ND (0.5)	2.4	ND (0.5)	ND (0.5)	27.4	3.6	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)	
	Apr-00	ND (0.5)	7.13	1.43	26	ND (0.5)	4	ND (0.5)	0.5	ND (0.5)	3.3	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)	
	Oct-00	ND (0.5)	7.13	3.96	ND (0.5)	ND (0.5)	3.9	ND (0.5)	ND (0.5)	13	1.8	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)	
	Apr-01	ND (0.5)	7.16	4.95	0.3J	0.8	8.1	ND (0.5)	0.7	25.5	3.1	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)	
	Oct-01	ND (0.5)	7.09	2.12	ND (0.5)	3.2	17.7	ND (0.5)	1.5	4.3	3.3	0.5	ND (0.5)	ND (0.5)	ND (1.0)	
	Apr-02	ND (0.5)	7.16	7.22	ND (0.5)	1.7	14.7	ND (0.5)	0.6	14.3	3.2	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)	
	Oct-02	ND (0.5)	7.12	9.41	ND (0.5)	2.9	21.4	ND (0.5)	0.7	13.5	3.9	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)	
	Apr-03	ND (0.5)	7.18	6.08	ND (0.5)	ND (0.5)	10.4	ND (0.5)	ND (0.5)	5.3	2.3	ND (0.5)	ND (0.5)	ND (0.5)	1.1	
	Oct-03	ND (0.5)	7.20	18.3	.125J	1.3	12.9	ND (0.5)	2.76	14.5	1.89	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)	
	May-04	ND (0.5)	7.22	4.19	ND (0.5)	1.0	14.9	ND (0.5)	2.5	9.0	7.0	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)	
DUP-1(MW-7)	Apr-97	NA	NA	NA	ND (2.5)	ND (2.5)	ND (2.5)	13	12	200	ND (2.5)	ND (2.5)	22	8.3	150	
DUP-2(MW-3)	Apr-97	NA	NA	NA	ND (0.5)	ND (0.5)	1.2	ND (0.5)	ND (0.5)	16	3.1	ND (0.5)	8.5	4.6	9.6	
DUP-(MW-4)	Oct-97	NA	NA	NA	ND (0.5)	ND (0.5)	1.3	ND (0.5)	ND (0.5)	23	3.3	ND (0.5)	32	20	29	
DUP-(MW-7)	Oct-97	NA	NA	NA	ND (0.5)	ND (0.5)	0.64	8.5	12	210	0.68	0.54	1.1	0.86	3.7	
MW-98 <sup>14</sup>	Nov-98	NA	NA	NA	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	3,300	ND (250)	ND (250)	7,100	130,000	47,000	
MW-99 <sup>15</sup>	Nov-98	NA	NA	NA	5.6	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	240	47	95	
DUP-1(MW-3)	Aug-99	NA	NA	NA	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	70	ND (5)	ND (5)	3,450	6,800	11,600	
DUP-2(MW-6)	Aug-99	NA	NA	NA	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	201	145	35	ND (5)	ND (5)	ND (10)	
DUP-1(MW-7)	Dec-99	NA	NA	NA	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	4.1	8.1	40.7	1.5	ND (0.5)	ND (0.5)	
DUP-2(MW-1)	Dec-99	NA	NA	NA	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	1,500	ND (250)	ND (250)	32,800	122,000	160,000	
DUP-1(MW-9)	Apr-00	NA	NA	NA	64	11	13	ND (5.0)	10	20	488	ND (5.0)	ND (5.0)	ND (5.0)	ND (10)	
DUP-2(MW-11)	Apr-00	NA	NA	NA	19.3	ND (0.5)	2.8	ND (0.5)	ND (0.5)	ND (0.5)	2.4	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)	
DUP-1(MW-10)	Oct-00	NA	NA	NA	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	11	1,640	ND (5.0)	18	1,510	25	725
DUP-2(MW-8)	Oct-00	NA	NA	NA	ND (0.5)	ND (0.5)	1.2	22.3	13.9	3.1	1.2	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)	
DUP-1(MW-1)	Apr-01	NA	NA	NA	ND (500)	ND (500)	ND (500)	ND (500)	ND (500)	109J	580	ND (500)	ND (500)	19,900	64,100	66,200
DUP-2(MW-3)	Apr-01	NA	NA	NA	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	58.0	ND (50)	ND (50)	4,580	6,990	11,640	
DUP-1(MW-4)	Apr-02	NA	NA	NA	ND (0.5)	ND (0.5)	0.7	ND (0.5)	ND (0.5)	2.0	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)	
DUP-1 (MW-6)	Oct-02	NA	NA	NA	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	58	47	8.0	ND (2.5)	ND (2.5)	ND (5)	
DUP-1 (MW-9)	Apr-03	NA	NA	NA	8.5	1.6	1.2	ND (0.5)	5.5	5.5	75.4	0.5	ND (0.5)	ND (0.5)	ND (1.0)	
DUP-1 (MW-4)	Oct-03	NA	NA	NA	ND (0.5)	ND (0.5)	0.61	ND (0.5)	34J	20.2	1.04	ND (0.5)	.19J	ND (0.5)	1.42	
DUP-1 (MW-8)	May-04	NA	NA	NA	ND (0.5)	ND (0.5)	2.7	8.2	15.2	17.6	1.4	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)	

Note:

<sup>1</sup>NA = Not Analyzed

<sup>2</sup>ND = Not Detected above laboratory limit

<sup>3</sup>J = Detection Limit

<sup>4</sup>Estimated concentration

<sup>5</sup>Chlorobenzene detected at 16

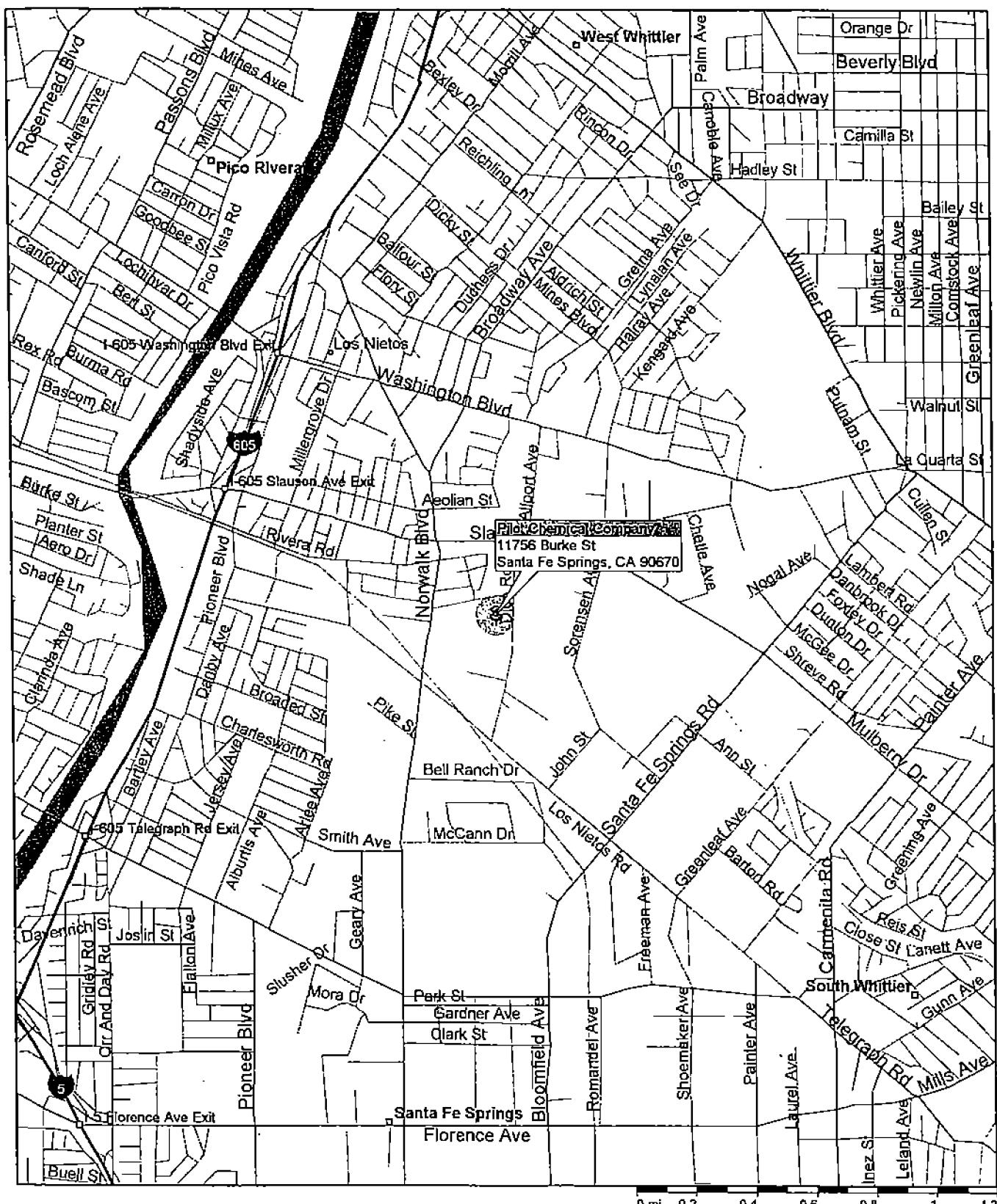
# Figures



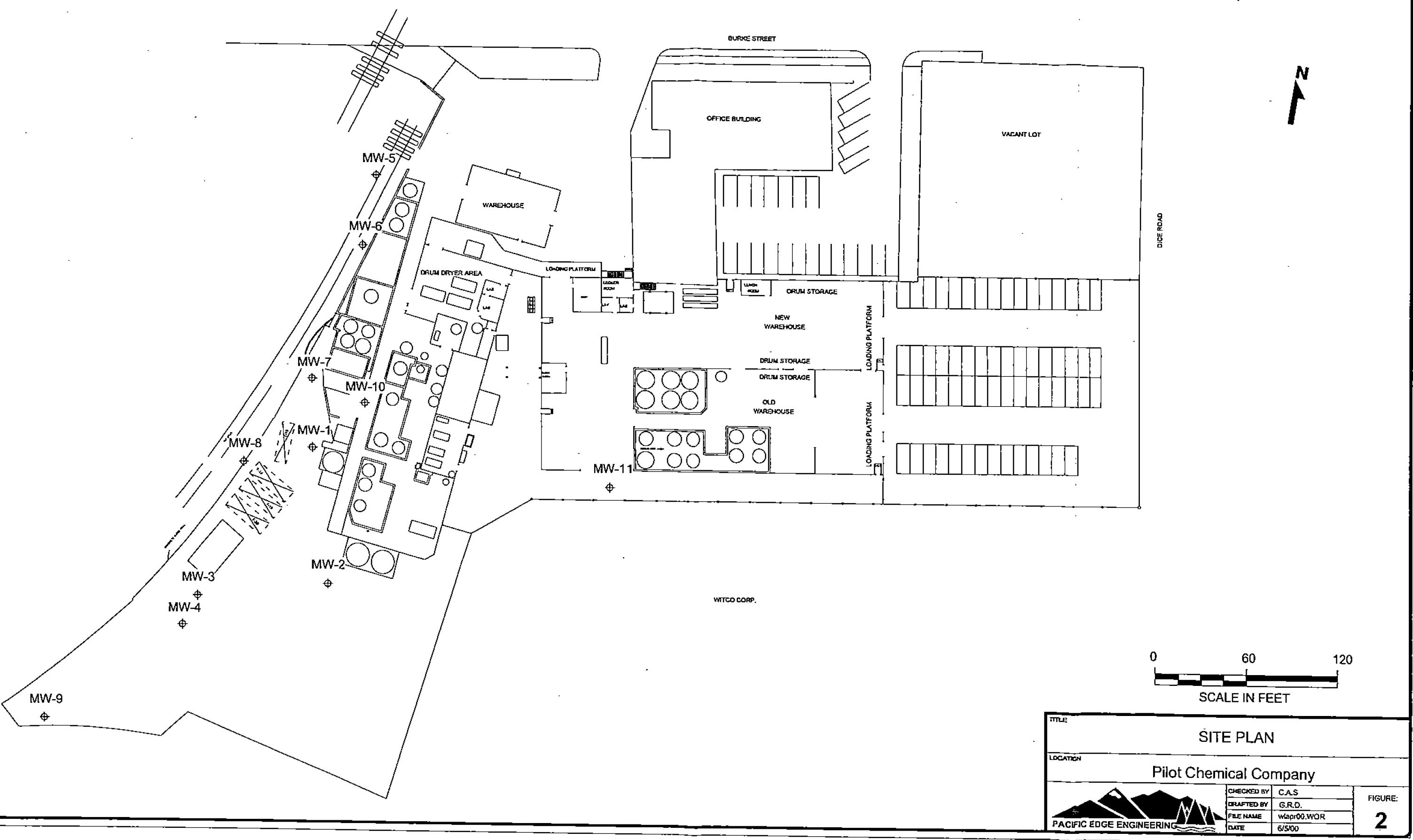
PACIFIC EDGE ENGINEERING  
(949) 470-1937; (949) 470-0943 (FAX)

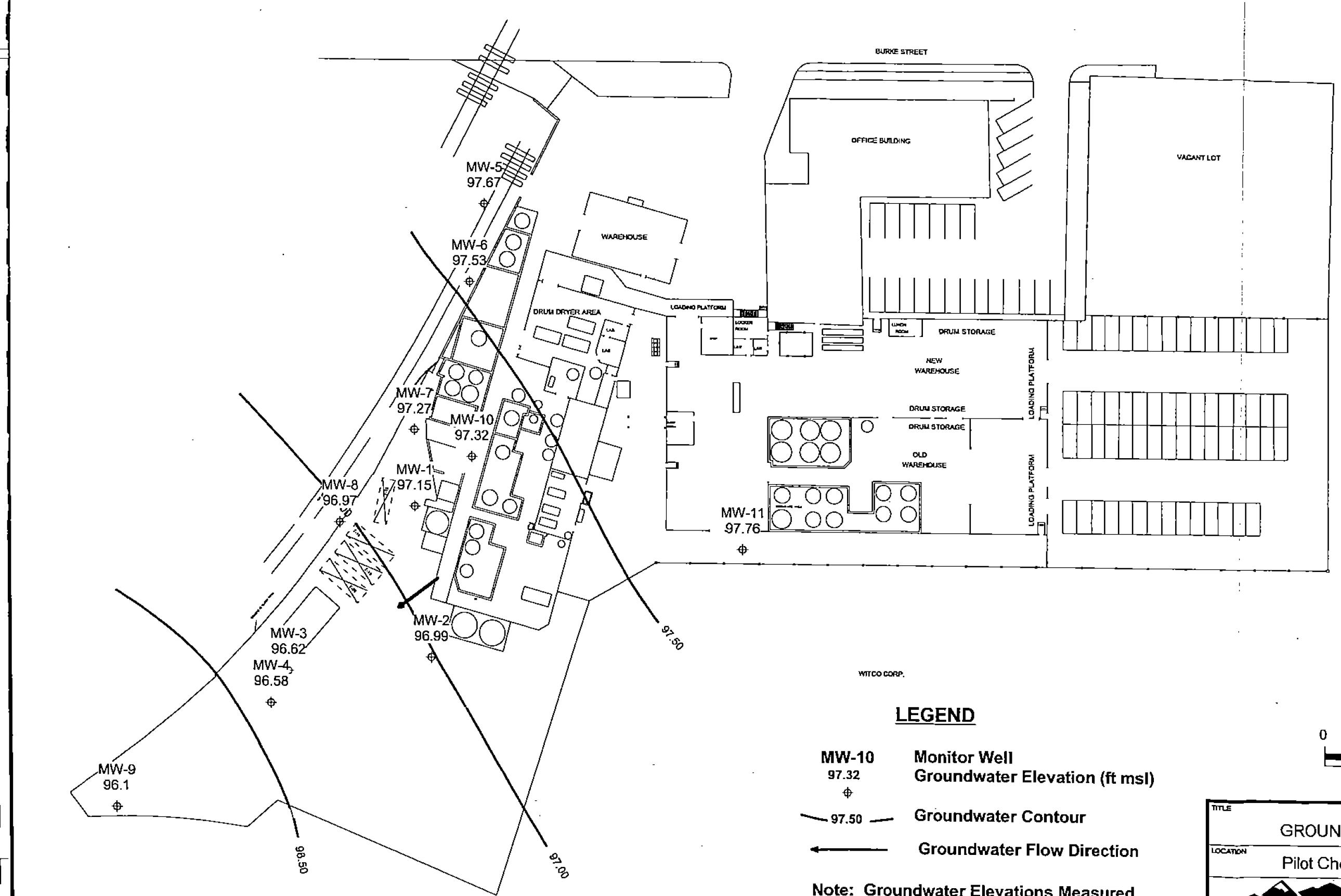
N:\P\file0019.001\001\May 04\Groundwater\verL.doc

**Figure 1**  
Site Location Map



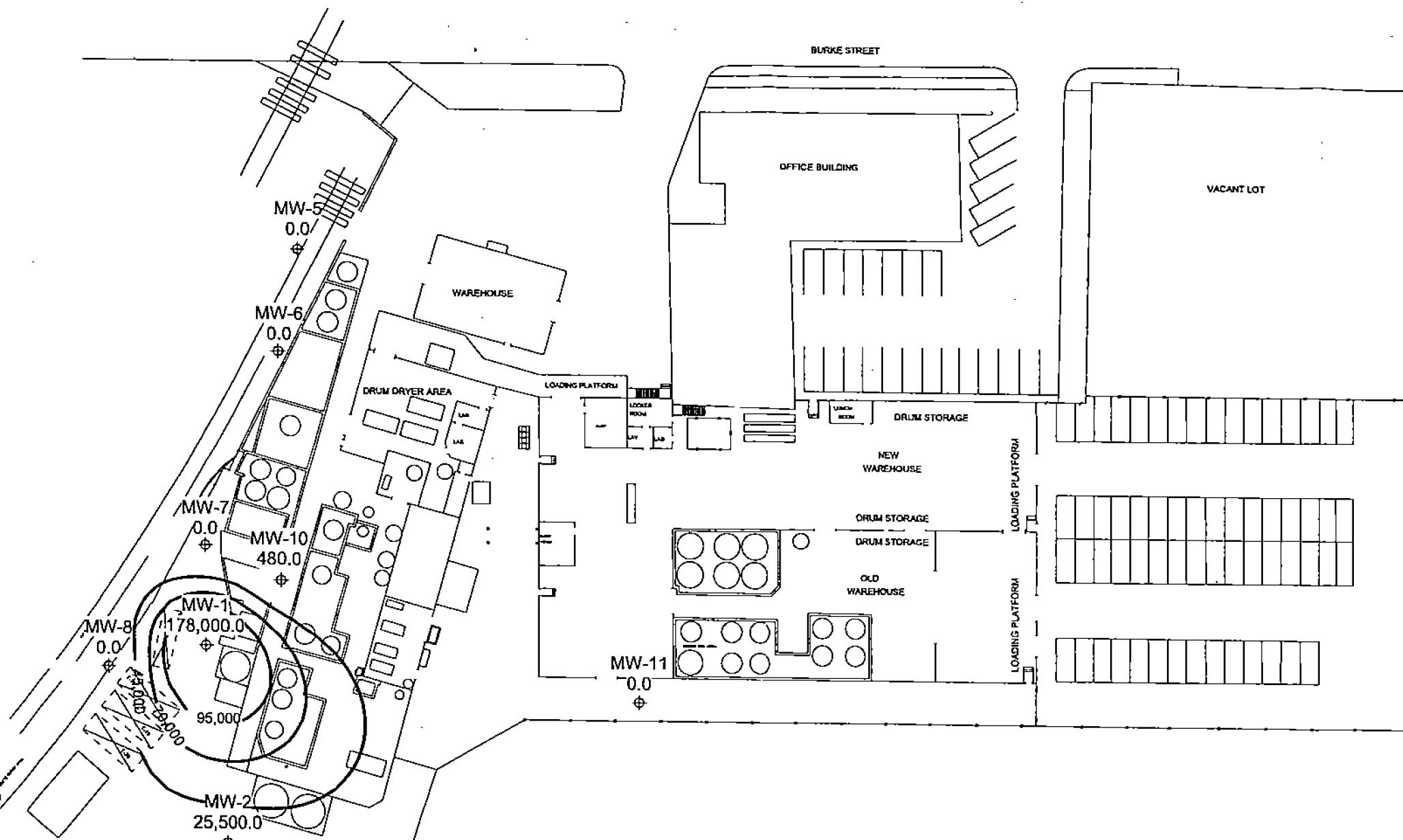
**Streets98**





0 60 120  
SCALE IN FEET

TITLE	GROUNDWATER FLOW DIRECTION		
LOCATION	Pilot Chemical Company		
 <b>PACIFIC EDGE ENGINEERING</b>			
CHECKED BY	C.A.S.	DRAFTED BY	C.A.S.
FILE NAME	GWContour5_04.WOR		
DATE	5/26/04		



#### LEGEND

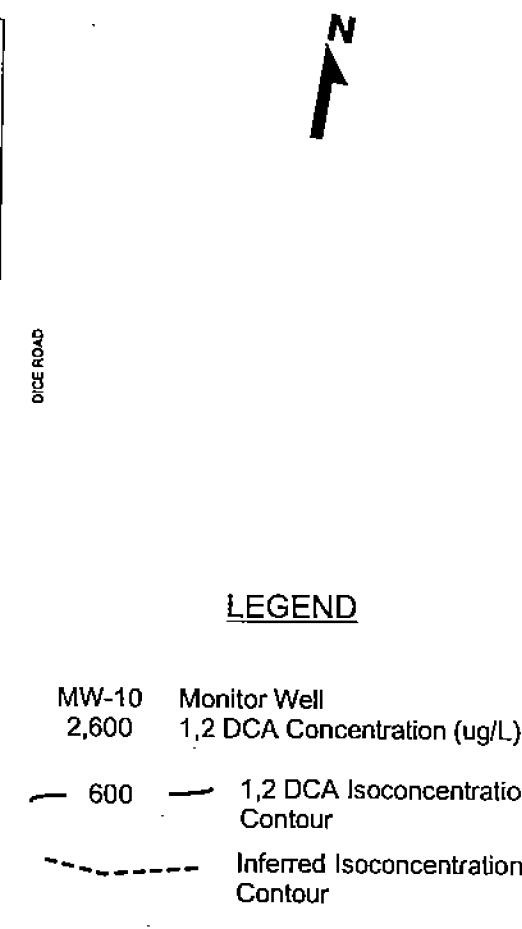
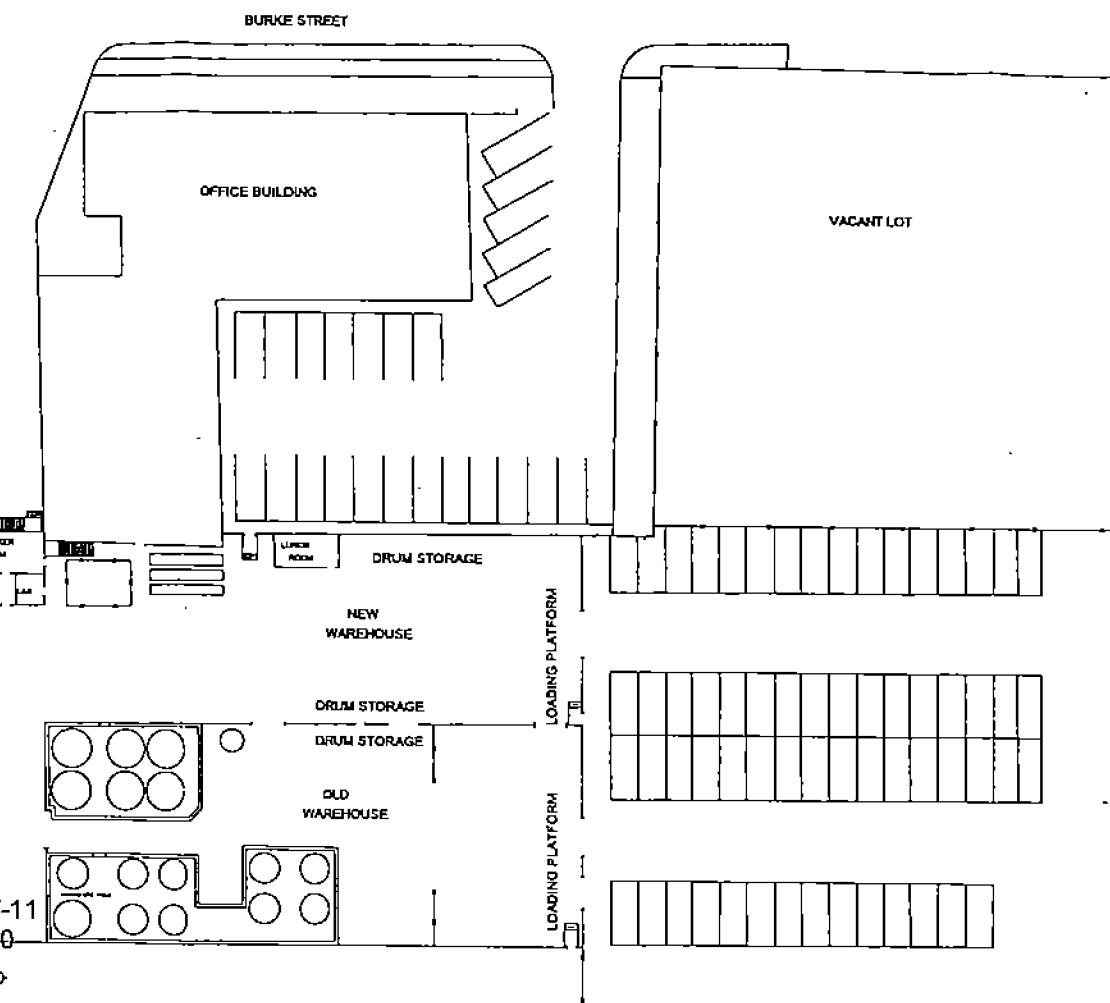
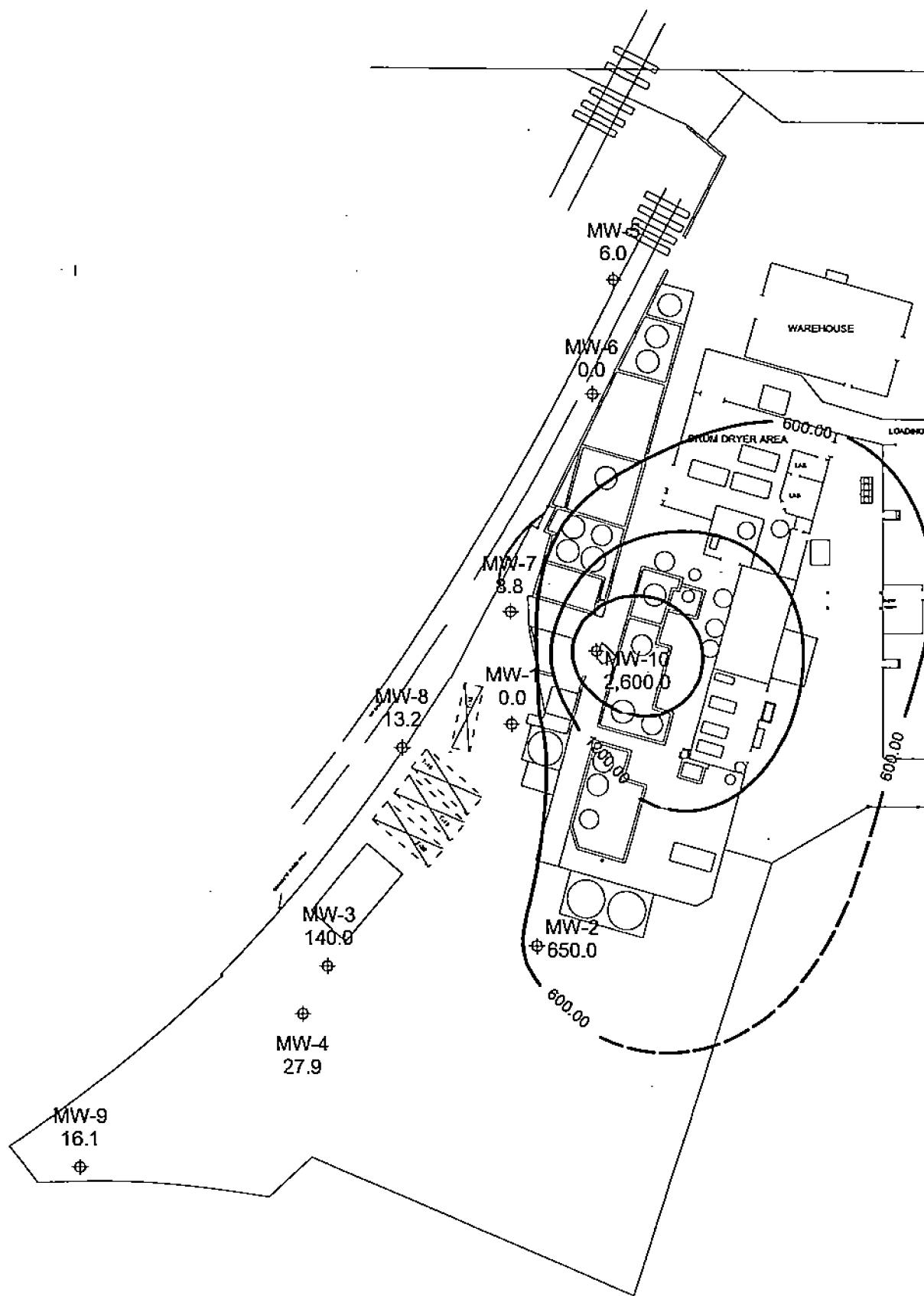
- MW-3** Monitor Well  
19,800 Xylene Concentration (ug/L)
- 45,000 — Xylene Isoconcentration Contour
- - -** Inferred Isoconcentration Contour

Note: Groundwater Elevations Measured on May 17, 2004.

0 60 120  
SCALE IN FEET

TITLE	
XYLENE ISOCONCENTRATION CONTOUR PLOT	
LOCATION	
Pilot Chemical Company	
	
CHECKED BY	C.A.S.
DRAFTED BY	C.A.S.
FILE NAME	
DATE	5/28/04

FIGURE: 4



Note: Groundwater Elevations Measured on May 17, 2004.

0 60 120  
SCALE IN FEET

TITLE	
1,2 DCA ISOCONCENTRATION CONTOUR PLOT	
LOCATION	
Pilot Chemical Company	
CHECKED BY	C.A.S.
DRAFTED BY	C.A.S.
FILE NAME	WORK\MAY04\DCAS04
DATE	5/26/04

FIGURE: 5

# **Appendix A**

## ***Groundwater Sampling Protocol and Field Notes***



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N:\P\Pilot\0019.001.001\May 04 Groundwater.txt.doc

### **Groundwater Sampling Protocol**

Groundwater samples were collected after removing three casing volumes of water from developed monitoring wells using a Waterra Inertial Pump. Dedicated 5/8-inch high-density polyethylene tubing was used to convey groundwater from the well to a surface storage container. Dedicated ¼-inch polyethylene tubing was used to convey the groundwater sample into the appropriate sample container. Groundwater samples were placed in thermally insulated chests containing ice and shipped under chain-of-custody to a State-certified analytical laboratory.

To determine whether cross-contamination of samples occurred during shipment to the laboratory, a trip blank consisting of a vial of distilled water was also included in the sample cooler.



# HYDRODATA LOG

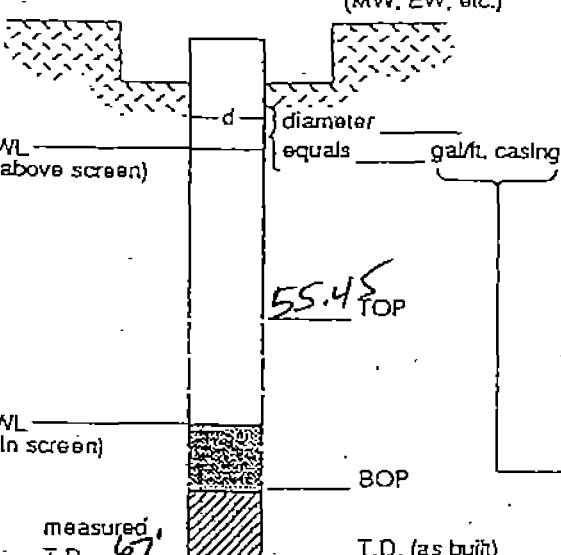
PACIFIC EDGE ENGINEERING, INC.

\*\* VES System extracting from EW3.

## sampling event data sheet

(fill out completely)

Well ID MW-1

PROJECT	Pilot	EVENT	5/04	SAMPLER	SHLZ	DATE	5/17/84
Well / Hydrologic statistics Well type MW-1 (MW, EW, etc.)  SWL (if above screen) SWL (if in screen) measured T.D. 67				Action	Time	Pump Rate	IWL (low yield)
				Start pump / Begin	1217		
				Stop	1240		
				Sampled	1240		
				(Final IWL)			
				Purge calculation $0.65 \text{ gal/ft.} \times 11.55 \text{ ft} - 7.5 \text{ gals} \times 3 = 22 \text{ gals.}$ <div style="display: flex; justify-content: space-around;"> <span>SWL to BOP or packer to BOP</span> <span>one volume</span> <span>purge volume- 3 casings</span> </div>			
				Head purge calculation (Airlift only) $\text{gal/ft.} \times \text{ft} = \text{gals.}$ <div style="display: flex; justify-content: space-around;"> <span>Packer to SWL</span> </div>			
Equipment Used / Sampling Method / Description of Event: Purged/Developed with:  <i>Purged with Vatessa &amp; dedicated tubing. Sampled with D.3 possible poly tubing (same for all wells)</i>				Actual gallons purged 10 Actual volumes purged 2t Well yield (+) VLY (see below)			
Sampled with:  <i>Additional comments: purged for 10 minutes &amp; went dry after ~7 gallons. Let recover for 10 minutes &amp; able to purge ~2 gallons. SEE well flow IS EXTRACTING &amp; MAY BE CAUSING WELL TO GO DRY</i>				COC # Sample I.D. Analysis Lab			
Gallons purged*	TEMP °C / °F (circle one)	EC (µs/cm)	pH	TURBIDITY (NTU)			
1.							
2.							
3.							
4.							
5.							
6.							
7.							
* Take measurement at approximate each casing volume purged.				+ HY - Minimal W.L. drop.  MY - WL drop - able to purge 3 volumes during one setting by reducing pump rate or cycling pump.		LY - able to purge 3 volumes by returning later or next day.  VLY - Minimal recharge - unable to purge 3 volumes	



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## SAMPLING EVENT DATA SHEET

(fill out completely)

WELL ID # 100-2

PROJECT Q-LT

EVENT 5/34

SAMPLER

DATE 5/17/04

**Equipment Used / Sampling Method / Description of Event:**  
**Purged/Developed with:**

**Actual gallons purged**

1

#### Actual volumes purged

35

Well yield  
(see below)

COC # \_\_\_\_\_  
Sample I.D. Analysis

Sampled with:

Additional comments:

Weather Condition AM PM


- \* Take measurement at approximately each casing volume purged.

+ HY - Minimal  
W.L. drop.

MY - WL drop - able to purge 3 volumes during one setting by reducing pump rate or cycling pump.

LY - able to purge 3  
volumes by returning  
later or next day.

VLY - Minimal recharge -  
unable to purge  
3 volumes



## SAMPLING EVENT DATA SHEET

(Fill out completely)

Well ID MW-3

PROJECT <u>Pilot</u>	EVENT <u>5/04</u>	SAMPLER <u>3022</u>	DATE <u>5/17/04</u>		
<p><b>Well / Hydrologic statistics</b></p> <p>Well type (MW, EW, etc.)</p>		Action	Time	Pump Rate	IWL (low yield)
		Start pump / Begin	<u>1410</u>		
		Stop	<u>1420</u>		
		Sampled	<u>1420</u>		
		(Final IWL)			
		<p><b>Purge calculation</b></p> $0.16 \text{ gal/ft.} \times 79 \text{ ft.} = 1.3 \text{ gals} \times 3 = 3.8 \text{ gals.}$ <p style="text-align: center;">↓</p> <p style="text-align: center;">SWL to BOP or packer to BOP      one volume</p> <p style="text-align: center;">purge volume 3 casings</p>			
		<p><b>Head purge calculation (Airlift only)</b></p> $\text{gal/ft.} \times \text{ft.} = \text{gals.}$ <p style="text-align: center;">Packer to SWL</p>			
<p><b>Equipment Used / Sampling Method / Description of Event:</b> Purged/Developed with:</p> <p><b>Sampled with:</b></p> <p><b>Additional comments:</b></p> <p><b>Weather Condition</b> <u>All</u> <u>PM</u></p>				Actual gallons purged	<u>5</u>
				Actual volumes purged	<u>31</u>
				Well yield <u>(+)</u>	
				COC #	
				Sample I.D.	Analysis
					Lab
Gallons purged*	TEMP °C / °F (circle one)	EC ( $\mu\text{s}/\text{cm}$ )	PH	TURBIDITY (NTU)	
1.					
2.					
3.					
4.					
5.					
6.					
7.					
* Take measurement at approximate each casing volume purged.		<input checked="" type="radio"/> HY - Minimal W.L. drop.		MY - WL drop - able to purge 3 volumes during one setting by reducing pump rate or cycling pump.	
				LY - able to purge 3 volumes by returning later or next day.	
				VLY - Minimal recharge - unable to purge 3 volumes	

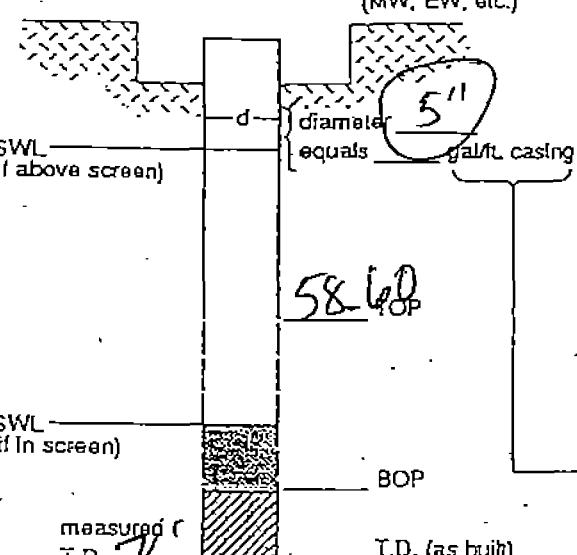


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## SAMPLING EVENT DATA SHEET

(Fill out completely)

Well ID MW-4

PROJECT <u>P-005</u>	EVENT <u>5/04</u>	SAMPLER <u>SHLZ</u>	DATE <u>5/19/04</u>			
Well / Hydrologic statistics Well type _____ (MW, EW, etc.) 		Action	Time			
		Start pump / Begin	<u>1035</u>			
		Stop	<u>1175</u>			
		Sampled	<u>1125</u>			
		(Final IWL)				
		Purge calculation $1.02 \text{ gal/ft.} \times 17.4 \text{ ft.} = 17.7 \text{ gals} \times 3 \frac{53}{3} \text{ gals.}$ <p style="text-align: center;"> <small>SWL to BOP or packer to BOP</small>      <small>one volume</small>      <small>purge volume- 3 casings</small> </p>				
		Head purge calculation (Airlift only) $\text{gall/ft.} \times \text{ft.} = \text{gals.}$ <p style="text-align: center;"> <small>Packer to SWL</small> </p>				
Equipment Used / Sampling Method / Description of Event: Purged/Developed with:		Actual gallons purged	<u>50</u>			
		Actual volumes purged	<u>3</u>			
		Well yield <u>(+)</u> (see below)				
		COC #				
		Sample I.D.				
		Analysis				
		Lab				
Sampled with:						
Additional comments:						
Weather Condition <u>All</u> <u>PM</u>						
Gallons purged*	TEMP °C / °F (circle one)	EC (µs / cm)	pH	TURBIDITY (NTU)		
1.						
2.						
3.						
4.						
5.						
6.						
7.						
Take measurement at approximate each casing volume purged.		<u>(+)</u> HY - Minimal W.L. drop.	MY - WL drop - able to purge 3 volumes during one setting by reducing pump rate or cycling pump.	LY - able to purge 3 volumes by returning later or next day.	VLY - Minimal recharge - unable to purge 3 volumes	

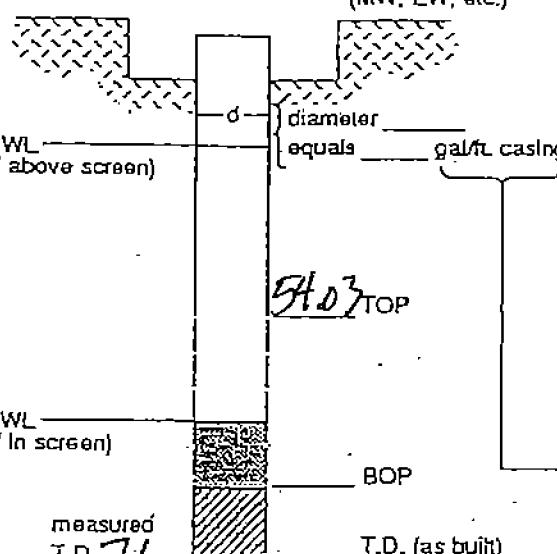


PACIFIC EDGE ENGINEERING, INC.

# SAMPLING EVENT DATA SHEET

(fill out completely)

Well ID NW-5

PROJECT <u>Pilot</u>	EVENT <u>5/04</u>	SAMPLER <u>STOZ</u>	DATE <u>5/17/04</u>		
Well / Hydrologic statistics Well type <u>MW</u> (MW, EW, etc.)  diameter equals _____ gal/ft casing <u>51.03</u> ft TOP <u>51.03</u> BOP <u>measured T.D. 71</u> T.D. (as built)		Action	Time	Pump Rate	IWL (low yield)
		Start pump / Begin	<u>10:30</u>		
		Stop	<u>10:55</u>		
		Sampled	<u>10:55</u>		
		(Final IWL)			
		Purge calculation $0.65 \text{ gal/ft.} \times 16.97 \text{ ft.} = 11 \text{ gals} \times 3 = 33 \text{ gals.}$ <div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <u>SWL to BOP or</u>  <u>packer to BOP</u> </div> <div style="width: 30%;"> <u>one</u>  <u>volume</u> </div> <div style="width: 30%;"> <u>purge volume</u>  <u>3 casings</u> </div> </div>			
		Head purge calculation (Airlift only) $\text{gal/ft.} \times \text{ft.} = \text{gals.}$ <div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <u>Packer to SWL</u> </div> <div style="width: 30%;"></div> <div style="width: 30%;"></div> </div>			
Equipment Used / Sampling Method / Description of Event: Purged/Developed with:			Actual gallons purged <u>35</u> Actual volumes purged <u>34</u> Well yield <u>(+)</u>		
Sampled with: <u>A14 Tubing</u> Additional comments:			COC # _____ Sample I.D. _____ Analysis _____ Lab _____		
Weather Condition AM PM					
Gallons purged	TEMP °C / °F (circle one)	EC (µs / cm)	PH	TURBIDITY (NTU)	
1.					
2.					
3.					
4.					
5.					
6.					
7.					
Take measurement at approximate each casing volume purged.		<u>(+)</u> HY - Minimal W.L drop. MY - WL drop - able to purge 3 volumes during one setting by reducing pump rate or cycling pump.		LY - able to purge 3 volumes by returning later or next day.	VLY - Minimal recharge - unable to purge 3 volumes



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# SAMPLING EVENT DATA SHEET

(All out completely)

Well ID Mw-6

PROJECT Pilot EVENT 5/04 SAMPLER SHLZ DATE 5/17/04

<p>Well / Hydrologic statistics Well type _____ (MW, EW, etc.)  SWL (if above screen) diameter equals gals/casing  54.24 ft TOP  SWL (if in screen) BOP measured T.D. 70 T.D. (as built)</p>	Action	Time	Pump Rate	IWL (low yield)
	Start pump / Begin	<u>1115</u>		
<b>Purge calculation</b> $0.65 \text{ gals} \times 15.7 \text{ ft} = 10.2 \text{ gals} \times 3 = 31 \text{ gals.}$ <p style="margin-left: 100px;"><small>SWL to BOP or packer to BOP      one volume                  purge volume                           3 readings</small></p> <p><b>Head purge calculation (Airlift only)</b>  <math display="block">\text{gals/ft.} \times \text{ft.} = \text{gals.}</math> <p style="margin-left: 100px;"><small>Packer to SWL</small></p> </p>				

Equipment Used / Sampling Method / Description of Event:  
Purged/Developed with:

Actual gallons purged 30

Actual volumes purged 3

Well yield + \_\_\_\_\_  
(see below)

COC # Samola I.O. Analysis Lab

Sampled with:

Additional comments:

Weather Condition AM  
PM

Gallons purged*	TEMP °C / °F (circle one)	EC (µs / cm)	pH	TURBIDITY (NTU)		
1.						
2.						
3.						
4.						
5.						
6.						
7.						

\* Take measurement at approximately each casing volume purged.  
 HY - Minimal W.L. drop.  
 MY - WL drop - able to purge 3 volumes during one setting by reducing pump rate or cycling pump.  
 LY - able to purge 3 volumes by returning later or next day.  
 VIY - Minimal recharge - unable to purge 3 volumes



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## SAMPLING EVENT DATA SHEET

(fill out completely)

WELL IN  $M\omega - 7$

PROJECT Pilot

## EVENT

5/04

## SAMPLER

DATE

5/17/04

PROJECT <u>Pivot</u>		EVENT <u>5/04</u>	SAMPLER <u>SHLW</u>	DATE <u>5/17/04</u>
<b>Well / Hydrologic statistics</b>  Well type <u>MW</u> (MW, EW, etc.) diameter <u>4</u> equals <u>gal/ft casing</u>		Action	Time	Pump Rate
SWL (if above screen)		Start pump / Begin	<u>1245</u>	
SWL (if in screen)		Stop	<u>1300</u>	
measured- T.D. <u>76'</u>		Sampled	<u>1300</u>	
		(Final IWL)		
		$0.65 \text{ gal/ft} \times 13.99 \text{ ft} = 9.1 \text{ gals} \times 3 = 27 \text{ gals.}$ <p style="text-align: center;">↑</p> <p style="text-align: center;">SWL to BOP or packer to BOP      one volume</p> <p style="text-align: center;">purge volume- 3 casings</p>		
		Head purge calculation (Airlift only) $\text{gal/ft.} \times \text{ft.} = \text{gals.}$ <p style="text-align: center;">Packer to SWL</p>		
<b>Equipment Used / Sampling Method / Description of Event:</b> Purged/Developed with:		Actual gallons purged <u>25</u> Actual volumes purged <u>3</u> Well yield <u>(+)</u>		
Sampled with:		COC #	Sample I.D.	Analysis
Additional comments:				Lab
Weather Condition <u>All</u> <u>PM</u>				
Gallons purged*	TEMP °C / °F (circle one)	EC ( $\mu\text{s}/\text{cm}$ )	pH	TURBIDITY (NTU)
1.				
2.				
3.				
4.				
5.				
6.				
7.				
Take measurement at approximate each casing volume purged.		HY - Minimal W.L. drop. MY - WL drop - able to purge 3 volumes during one setting by reducing pump rate or cycling pump.		LY - able to purge 3 volumes by returning later or next day.
				VLY - Minimal recharge unable to purge 3 volumes



PACIFIC EDGE ENGINEERING, INC.

## SAMPLING EVENT DATA SHEET

(fill out completely)

Well ID MW-8

PROJECT

EVENT 5/24

## SAMPLER

DATE 5/17/04

Project		Event	Sampler	Date																																
Well / Hydrologic statistics																																				
Well type (MW, EW, etc.)		MW																																		
SWL (if above screen)		d	diameter 4 equals gal/ft. casing																																	
			54.58 TOP																																	
SWL (if in screen)			BOP																																	
measured T.D. 73			T.D. (as built)																																	
<table border="1"> <tr> <td>Action</td> <td>Time</td> <td>Pump Rate</td> <td>IWL (low yield)</td> </tr> <tr> <td>Start pump / Begin</td> <td>1145</td> <td></td> <td></td> </tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr> <td>Stop</td> <td>1215</td> <td></td> <td></td> </tr> <tr> <td>Sampled</td> <td>1215</td> <td></td> <td></td> </tr> <tr> <td>(Final IWL)</td> <td></td> <td></td> <td></td> </tr> </table>					Action	Time	Pump Rate	IWL (low yield)	Start pump / Begin	1145															Stop	1215			Sampled	1215			(Final IWL)			
Action	Time	Pump Rate	IWL (low yield)																																	
Start pump / Begin	1145																																			
Stop	1215																																			
Sampled	1215																																			
(Final IWL)																																				
<p style="text-align: center;">Purge calculation</p> $0.65 \text{ gal/ft.} \times 18.4 \text{ ft} = 11.9 \text{ gals} \times 3 = 36 \text{ gals.}$ <p style="text-align: center;">↑ SWL to BOP or packer to BOP      one volume      purge volume one volume      3 casings</p>																																				
<p style="text-align: center;">Head purge calculation (Airlift only)</p> $\text{gal/ft.} \times \text{ft.} = \text{gals.}$ <p style="text-align: center;">Packer to SWL</p>																																				
<p>Equipment Used / Sampling Method / Description of Event: Purged/Developed with:</p>																																				
<p>Actual gallons purged 35 Actual volumes purged 3 Well yield (+) _____</p>																																				
<p>COC # _____ Sample ID. _____ Analysis _____ Lab _____</p>																																				
<p>Sampled with:</p>																																				
<p>Additional comments: DVP-1 Collected from MW-8</p>																																				
<p>Weather Condition AM PM</p>																																				
Gallons purged	TEMP °C / °F (circle one)	EC ( $\mu\text{s}/\text{cm}$ )	pH	TURBIDITY (NTU)																																
1.																																				
2.																																				
3.																																				
4.																																				
5.																																				
6.																																				
7.																																				
<p>Take measurement at approximate each casing volume purged.</p>																																				
<input checked="" type="radio"/> HY - Minimal W.L. drop.		MY - WL drop - able to purge 3 volumes during one setting by reducing pump rate or cycling pump.		LY - able to purge 3 volumes by returning later or next day.																																
VLY - Minimal recharge - unable to purge 3 volumes																																				

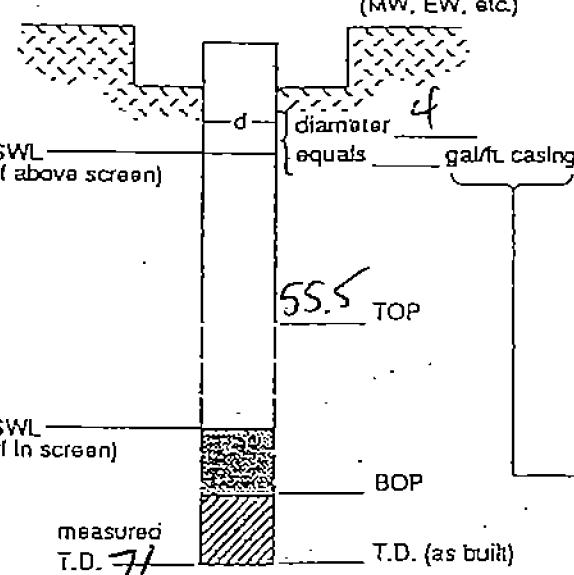


PACIFIC EDGE ENGINEERING, INC.

# SAMPLING EVENT DATA SHEET

(fill out completely)

Well ID MW - 9

PROJECT	Pilot	EVENT	5/04	SAMPLER	Stoltz	DATE	5/19/04
Well / Hydrologic statistics Wall type <u>MW</u> (MW, EW, etc.) 				Action	Time	Pump Rate	IWL (low yield)
				Start pump / Begin	0947		
				Stop	1000		
				Sampled	1000		
				(Final IWL)			
				<b>Purge calculation</b> $0.65 \text{ gal/ft.} \times 15.5 \text{ ft.} = 10.1 \text{ gals} \times 3 = 30 \text{ gals.}$ <div style="display: flex; justify-content: space-around; align-items: center;"> <span>SWL to BOP or packer to BOP</span> <span>one volume</span> <span>purge volume 3 readings</span> </div>			
				<b>Head purge calculation (Airlift only)</b> $\text{gal/ft.} \times \text{ft.} = \text{gals.}$ <div style="display: flex; justify-content: space-around; align-items: center;"> <span>Packer to SWL</span> </div>			
<b>Equipment Used / Sampling Method / Description of Event:</b> Purged/Developed with:				Actual gallons purged <u>15</u> Actual volumes purged <u>24</u> Well yield <u>(+)</u>			
<b>Sampled with:</b> Additional comments: Drilled for 5 minutes & well went dry. Let recover for 10 minutes. <del>5 min. well</del> . Pulled well				COC # _____ Sample I.D. _____ Analysis _____ Lab _____			
<b>Weather Condition</b> <u>AM</u> <u>PM</u>							
Gallons purged*	TEMP °C / °F (circle one)	EC (µs/cm)	pH	TURBIDITY (NTU)			
1.							
2.							
3.							
4.							
5.							
6.							
7.							
Take measurement at approximate each casing volume purged.				<u>(+)</u> HY - Minimal W.L. drop.		MY - WL drop - able to purge 3 volumes during one setting by reducing pump rate or cycling pump.	
						LY - able to purge 3 volumes by returning later or next day.	
						VLY - Minimal recharge - unable to purge 3 volumes	



## SAMPLING EVENT DATA SHEET

(fill out completely)

Well ID MW-10

PROJECT	Pilot	EVENT	5/04	SAMPLER	SA12	DATE	5/19/04
Well / Hydrologic statistics Well type MW (MW, EW, etc.) 				Action	Time	Pump Rate	IWL (low yield)
				Start pump / Begin	0910		
				Stop	0940		
				Sampled	0940		
				(Final IWL)			
				Purge calculation $0.65 \text{ gal/ft.} \times 14.2 \text{ ft.} = 9.2 \text{ gals} \times 3 = 27 \text{ gals.}$ <div style="display: flex; justify-content: space-around;"> <span>SWL to BOP or packer to BOP</span> <span>one volume</span> <span>purge volume- 3 casings</span> </div>			
				Head purge calculation (Airlift only) $\text{gal/ft.} \times \text{ft.} = \text{gals.}$ <div style="display: flex; justify-content: space-between;"> <span>gal/ft. x</span> <span>ft. =</span> <span>gals.</span> </div>			
Equipment Used / Sampling Method / Description of Event: Purged/Developed with:				Actual gallons purged	15		
				Actual volumes purged	2+		
				Well yield <span style="border: 1px solid black; padding: 0 5px;">(see below)</span>	VLY		
				COC #	Sample I.D.	Analysis	Lab
Sampled with: Additional comments: purged from 0910 - 0920 & went dry. Let recovery for 10 minutes							
Weather Condition <span style="border: 1px solid black; padding: 0 5px;">(see below)</span> PH							
Gallons purged	TEMP °C / °F (circle one)	EC (µs/cm)	PH	TURBIDITY (NTU)			
1.							
2.							
3.							
4.							
5.							
6.							
7.							
Take measurement at approximate each casing volume purged.				<span style="border: 1px solid black; padding: 0 5px;">(+) HY - Minimal W.L. drop.</span> <span>MY - WL drop - able to purge 3 volumes during one setting by reducing pump rate or cycling pump.</span>	<span>LY - able to purge 3 volumes by returning later or next day.</span> <span>VLY - Minimal recharge - unable to purge 3 volumes</span>		

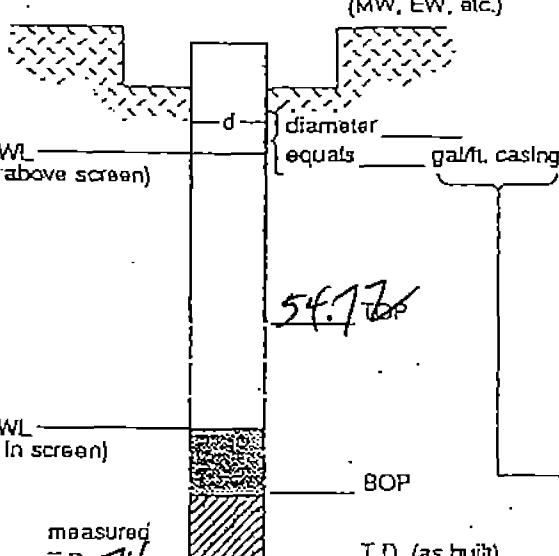


PACIFIC EDGE ENGINEERING, INC.

## SAMPLING EVENT DATA SHEET

(fill out completely)

Well ID MW-11

PROJECT <u>MW-11</u>	EVENT <u>5/17/04</u>	SAMPLER <u>STC2</u>	DATE <u>5/17/04</u>				
<b>Well / Hydrologic statistics</b>  Well type <u>(MW, EW, etc.)</u> SWL (if above screen) <u>54.76 ft</u> SWL (if in screen) measured T.D. <u>74</u> T.D. (as built)		Action	Time				
		Start pump / Begin	<u>1310</u>				
		Stop	<u>1350</u>				
		Sampled	<u>1350</u>				
		(Final IWL)					
		Purge calculation $0.65 \text{ gal/ft.} \times 9.2 \text{ ft.} \times 12.5 \text{ gals} \times 3 = 37 \text{ gals.}$ <p style="text-align: center;"> <math>\downarrow</math>            SWL to BOP or            packer to BOP      one            volume                purge volume            3 casings         </p>					
		Head purge calculation (Airlift only) $\text{gal/ft.} \times \text{ft.} = \text{gals.}$ <p style="text-align: center;"> <math>\downarrow</math>            Packer to SWL         </p>					
Equipment Used / Sampling Method / Description of Event: Purged/Developed with:		Actual gallons purged <u>~35</u> Actual volumes purged <u>3</u> Well yield <u>+</u> (see below)					
Sampled with:		COC # Sample I.D.      Analysis      Lab					
Additional comments:							
Weather Condition AM PM							
Gallons purged*	TEMP °C / °F (circle one)	EC (µs/cm)	pH	TURBIDITY (NTU)			
1.							
2.							
3.							
4.							
5.							
6.							
7.							
* Take measurement at approximate each casing volume purged.		<u>HY</u> - Minimal W.L. drop.		MY - W.L. drop - able to purge 3 volumes during one setting by reducing pump rate or cycling pump.		LY - able to purge 3 volumes by returning later or next day.	
						<u>YL</u> - Minimal recharge - unable to purge 3 volumes	



PACIFIC EDGE ENGINEERING, INC.

# **Appendix B**

## ***Laboratory Analytical Results, Quality Control Reports, and Chain-of-Custody***



PACIFIC EDGE ENGINEERING

(949) 470-1937; (949) 470-0943 (FAX)

NAPA\Pilot\001.001\May 04 GroundwaterText.doc

**LABORATORY REPORT FORM (COVER PAGE 1)**

LABORATORY NAME: AMERICAN SCIENTIFIC LABORATORIES, LLC

ADDRESS: 2520 N. SAN FERNANDO RD., LA CA 90065

TELEPHONE/FAX: TEL:323/223-9700 FAX:323/223-9500

ELAP CERTIFICATION NO. 2200

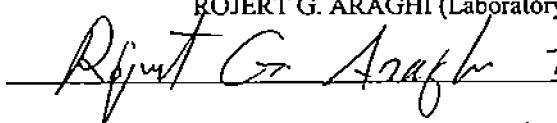
EXPIRATION DATE:1-31-2005

AUTHORIZED SIGNATURE

NAME, TITLE(print)

ROJERT G. ARAGHI (Laboratory Director)

SIGNATURE, DATE

 7-28-04

CLIENT NAME: PACIFIC EDGE ENGINEERING

PROJECT NAME: PILOT CHEMICAL

PROJECT NUMBER: 0019

ASL JOB NO: 22030

DATE SAMPLED: 05/17/04 TO 05/17/04

DATE RECEIVED: 05/17/04 TO 05/17/04

DATE REPORTED: 05/26/04

CHAIN OF CUSTODY RECEIVED: YES X NO       

COMMENTS:

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
LOS ANGELES REGION**

**LABORATORY REPORT FORM (COVER PAGE 2)**

**ORGANIC ANALYSES**                   **# OF SAMPLES**                   **#OF SAMPLES  
SUBCONTRACTED**

SAMPLE CONDITION: GOOD

**INORGANIC ANALYSES**                   **# OF SAMPLES**                   **#OF SAMPLES  
SUBCONTRACTED**

SAMPLE CONDITION: GOOD

**SAMPLE CONDITION:**

**SAMPLE CONDITION:**

ASL JOB NO: 22030  
PROJECT NAME: Pilot Chemical

**ANALYTICAL RESULT FOR pH**

Method: 150.1	Date Analyzed : 05-18-04			
Prep (TCLP, CAL-WET, _DM)	CRDL: 1.00			
Parameter: pH	Reporting Unit: pH Units			
LAB SAMPLE ID	CLIENT SAMPLE ID	SAMPLE MATRIX	DILUTION FACTOR	RESULT
129633	MW-5	Water	1.00	7.37
129634	MW-6	Water	1.00	7.39
129635	MW-8	Water	1.00	7.32
129636	MW-1	Water	1.00	6.97
129637	MW-7	Water	1.00	7.36
129638	MW-11	Water	1.00	7.22
129639	MW-2	Water	1.00	7.20
129640	MW-3	Water	1.00	7.16

ASL JOB NO: 22030  
PROJECT NAME: Pilot Chemical

**ANALYTICAL RESULT FOR SURFACTANTS(MBAS)**

Method: 425.1	Date Analyzed : 05-18-04			
Prep (TCLP, CAI-WET,_ DM)	CRDL: 0.05			
Parameter: Surfactants(MBAS)	Reporting Unit: mg/L			
LAB: SAMPLE ID	CLIENT SAMPLE ID	SAMPLE MATRIX	DILUTION FACTOR	RESULT
Method Blank		Water	1.00	<0.050
129633	MW-5	Water	1.00	0.25
129634	MW-6	Water	1.00	1.02
129635	MW-8	Water	1.00	0.48
129636	MW-1	Water	1.00	48.9
129637	MW-7	Water	1.00	0.23
129638	MW-11	Water	1.00	4.19
129639	MW-2	Water	1.00	4.72
129640	MW-3	Water	1.00	4.61

**ASL JOB NO:** 22030  
**PROJECT NAME:** Pilot Chemical

## **ANALYTICAL RESULT FOR ORGANICS**

**METHOD:8015M/DHSLUFT**

**REPORTING UNIT:** mg/L

**ASL JOB NO:** 22030  
**PROJECT NAME:** Pilot Chemical

## **ANALYTICAL RESULT FOR ORGANICS**

## METHOD: 80ISM/DHSLUFT

**REPORTING UNIT:** mg/L

Note: Surrogate masked due to interferences of gasoline.

ASL JOB NO: 22030  
PROJECT NAME: Pilot Chemical

## **ANALYTICAL RESULT FOR ORGANICS**

METHOD:8015M/DHSLUFT

**REPORTING UNIT:** mg/L

**QA/QC REPORT (Continued)**

#### **Matrix Spike(MS)/Matrix Spike Duplicate (MSD)**

**DATE PERFORMED:** 05-20-04  
**BATCH#:** One  
**LAB SAMPLE ID:** 129529

**ANALYTICAL METHOD: 8015M/DHSLUFT**

**Laboratory Quality Control Check Sample (LCS)**

DATE PERFORMED: 05-20-04

**ANALYTICAL METHOD: 8915M/DHS/LUFT**

**SUPPLY SOURCE:** EM Science  
**LOT NUMBER:** EPF00072-1  
**DATE OF SOURCE:** N/A

**LAB LCS ID:** Diesel STD 300ppm LCS  
**UNIT:** (Circle One)    ug/kg    ug/L

ASL JOB NO: 22030  
PROJECT NAME: Pilot Chemical

## QA/QC REPORT

### CALIBRATION STANDARD

#### (A). INITIAL CALIRATION

DATE PERFORMED: 12-31-04  
STANDARD SUPPLY SOURCE: RESTEK  
INSTRUMENT ID: HP 6890 GC

ANALYTICAL METHOD: 8015M/DHSLUFT  
DATE OF SOURCE: N/A  
LOT NUMBER: A029129

ASL JOB NO: 22030  
 PROJECT NAME: Pilot Chemical

### ANALYTICAL RESULT FOR ORGANICS

METHOD: 601/602

REPORTING UNIT: ug/L

	Date Analyzed	05-25-04	05-25-04	05-24-04	05-24-04	05-24-04
	Date Extracted	05-25-04	05-25-04	05-24-04	05-24-04	05-24-04
	Lab Sample ID	129633	129634	129635	129636	129637
	Client Sample ID	MW-5	MW-6	MW-8	MW-1	MW-7
	Extraction Solvent	N/A	N/A	N/A	N/A	N/A
	Extraction Method	5030	5030	5030	5030	5030
	Dilution Factor	5	5	1	2500	1
COMPOUND	ICP	%RSD	%REC	%REC	%REC	%REC
Benzene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromobenzene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromomethane	1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Carbon Tetrachloride	0.5	70.0	103	8.0	<0.5	1.8
Chlorobenzene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroethane	1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroform	0.5	34.5	70.0	12.1	<0.5	3.1
Chloromethane	1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dibromochloromethane	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichlorobenzene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-Dichlorobenzene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethane(1,1DCA)	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethane(1,2DCA)	0.5	6.0	<0.5	13.2	<0.5	8.8
1,1-Dichloroethylene(1,1DCE)	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Cis 1,2-Dichloroethene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trans 1,2-Dichloroethene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Cis 1,3-Dichloropropene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trans 1,3-Dichloropropene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	0.5	<0.5	<0.5	<0.5	31500	<0.5
Methylene Chloride	2.0	<2.0	<2.0	<2.0	<2.0	<2.0
SURROGATE	ICP	%RSD	%REC	%REC	%REC	%REC
Bromofluorobenzene	10.0	70-120	97	89	82	97
						91

ASL JOB NO: 22030  
PROJECT NAME: Pilot Chemical

### ANALYTICAL RESULT FOR ORGANICS

METHOD: 8010/8020

REPORTING UNIT: ug/L

	Date Analyzed	05-25-04	05-25-04	05-24-04	05-24-04	05-24-04
	Date Extracted	05-25-04	05-25-04	05-24-04	05-24-04	05-24-04
	Lab Sample ID	129633	129634	129635	129636	129637
	Client Sample ID	MW-5	MW-6	MW-8	MW-1	MW-7
	Extraction Solvent	N/A	N/A	N/A	N/A	N/A
	Extraction Method	5030	5030	5030	5030	5030
	Dilution Factor	5	5	1	2500	1
COMPOUND	CRD	% REC				
1,1,1,2-Tetrachloroethane	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	0.5	<0.5	<0.5	<0.5	95000	<0.5
Tetrachloroethene (PCE)	0.5	2.5	<0.5	2.6	<0.5	0.9
1,1,1-Trichloroethane	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene(TCE)	0.5	2.5	<0.5	1.3	<0.5	1.6
Krichlorofluoromethane	1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,3-Trichloropropane	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Vinyl Chloride	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylenes	1.0	<1.0	<1.0	<1.0	178000	<1.0
SURROGATE	SPK CONC	% REC				
Bromofluorobenzene	10.0	70-120	97	89	82	97
						91

ASL JOB NO: 22030  
 PROJECT NAME: Pilot Chemical

### ANALYTICAL RESULT FOR ORGANICS

METHOD: 8010/8020

REPORTING UNIT: ug/L

	Date Analyzed	05-24-04	05-25-04	05-25-04	05-25-04	
	Date Extracted	05-24-04	05-25-04	05-25-04	05-25-04	
	Lab Sample ID	129638	129639	129640	129641	
	Client Sample ID	MW-11	MW-2	MW-3	Dup-1	
	Extraction Solvent	N/A	N/A	N/A	N/A	
	Extraction Method	5030	5030	5030	5030	
	Dilution Factor	1	500	200	1	
COMPOUND	(GR/L)					
Benzene	0.5	<0.5	<0.5	<0.5	<0.5	
Bromobenzene	0.5	<0.5	<0.5	<0.5	<0.5	
Bromodichloromethane	0.5	<0.5	<0.5	<0.5	<0.5	
Bromoform	1.0	<1.0	<1.0	<1.0	<1.0	
Bromomethane	1.0	<1.0	<1.0	<1.0	<1.0	
Carbon Tetrachloride	0.5	<0.5	<1.0	<0.5	8.2	
Chlorobenzene	0.5	<0.5	<0.5	<0.5	<0.5	
Chloroethane	1.0	<1.0	<1.0	<1.0	<1.0	
Chloroform	0.5	2.5	<0.5	<0.5	15.2	
Chloromethane	1.0	<1.0	<1.0	<1.0	<1.0	
Dibromochloromethane	0.5	<0.5	<0.5	<0.5	<0.5	
Dibromomethane	0.5	<0.5	<0.5	<0.5	<0.5	
1,2-Dichlorobenzene	0.5	<0.5	<0.5	<0.5	<0.5	
1,3-Dichlorobenzene	0.5	<0.5	<0.5	<0.5	<0.5	
1,4-Dichlorobenzene	0.5	<0.5	<0.5	<0.5	<0.5	
Dichlorodifluoromethane	0.5	<0.5	<0.5	<0.5	<0.5	
1,1-Dichloroethane(1,1DCA)	0.5	<0.5	<0.5	<0.5	<0.5	
1,2-Dichloroethane(1,2DCA)	0.5	9.0	650	140	17.6	
1,1-Dichloroethylene(1,1DCE)	0.5	1.0	<0.5	<0.5	<0.5	
Cis 1,2-Dichloroethene	0.5	<0.5	<0.5	<0.5	<0.5	
Trans 1,2-Dichloroethene	0.5	<0.5	<0.5	<0.5	<0.5	
1,2-Dichloropropane	0.5	<0.5	<0.5	<0.5	<0.5	
Cis 1,3-Dichloropropene	0.5	<0.5	<0.5	<0.5	<0.5	
Trans 1,3-Dichloropropene	0.5	<0.5	<0.5	<0.5	<0.5	
Ethylbenzene	0.5	<0.5	5500	5280	<0.5	
Methylene Chloride	2.0	<2.0	<2.0	<2.0	<2.0	
STANNOCAINE SPK CONC	ACP%	%REC	%REC	%REC	%REC	
Bromofluorobenzene	10.0	70-120	98	105	114	106

ASL JOB NO: 22030  
PROJECT NAME: Pilot Chemical

### ANALYTICAL RESULT FOR ORGANICS

METHOD: 8010/8020

REPORTING UNIT: ug/L

	Date Analyzed	05-24-04	05-25-04	05-25-04	05-25-04	
	Date Extracted	05-24-04	05-25-04	05-25-04	05-25-04	
	Lab Sample ID	129638	129639	129640	129641	
	Client Sample ID	MW-11	MW-2	MW-3	Dup-1	
	Extraction Solvent	N/A	N/A	N/A	N/A	
	Extraction Method	5030	5030	5030	5030	
	Dilution Factor	1	1	200	1	
COMPOUND	ICP	%RIG	%REC	%RIG	%REC	REMARKS
1,1,1,2-Tetrachloroethane	0.5	<0.5	<0.5	<0.5	<0.5	
1,1,2,2-Tetrachloroethane	0.5	<0.5	<0.5	<0.5	<0.5	
Toluene	0.5	<0.5	35400	14000	<0.5	
Tetrachloroethene (PCE)	0.5	14.9	<0.5	0.7	2.7	
1,1,1-Trichloroethane	0.5	<0.5	<0.5	<0.5	<0.5	
1,1,2-Trichloroethane	0.5	<0.5	<0.5	<0.5	<0.5	
Trichloroethylene(TCE)	0.5	7.0	<0.5	<0.5	1.4	
Trichlorofluoromethane	1.0	<1.0	<1.0	<1.0	<1.0	
1,2,3-Trichloropropane	0.5	<0.5	<0.5	<0.5	<0.5	
Vinyl Chloride	0.5	<0.5	<0.5	<0.5	<0.5	
Xylenes	1.0	<0.5	25500	19800	<1.0	
SURROGATE	ICP	%RIG	%REC	%RIG	%REC	REMARKS
Bromoform	10.0	70-120	98	105	114	106

ASL JOB NO: 22030  
PROJECT NAME: Pilot Chemical

### ANALYTICAL RESULT FOR ORGANICS

METHOD: 8010/8020

REPORTING UNIT: ug/L

COMPOUND	DATE ANALYZED	05-24-04	05-25-04	
Benzene	Date Extracted	05-24-04	05-25-04	
	Lab Sample ID	Method Blank	Method Blank	
	Client Sample ID			
	Extraction Solvent	H <sub>2</sub> O	H <sub>2</sub> O	
	Extraction Method	5030	5030	
	Dilution Factor	1	1	
COMPOUND	DATE ANALYZED	05-24-04	05-25-04	
Benzene		<0.5	<0.5	
Bromobenzene		<0.5	<0.5	
Bromodichloromethane		<0.5	<0.5	
Bromoform		<1.0	<1.0	
Bromomethane		<1.0	<1.0	
Carbon Tetrachloride		<0.5	<0.5	
Chlorobenzene		<0.5	<0.5	
Chloroethane		<1.0	<1.0	
Chloroform		<0.5	<0.5	
Chloromethane		<1.0	<1.0	
Dibromochloromethane		<0.5	<0.5	
Dibromomethane		<0.5	<0.5	
1,2-Dichlorobenzene		<0.5	<0.5	
1,3-Dichlorobenzene		<0.5	<0.5	
1,4-Dichlorobenzene		<0.5	<0.5	
Dichlorodifluoromethane		<0.5	<0.5	
1,1-Dichloroethane(1,1DCA)		<0.5	<0.5	
1,2-Dichloroethane(1,2DCA)		<0.5	<0.5	
1,1-Dichloroethylene(1,1DCE)		<0.5	<0.5	
Cis 1,2-Dichloroethene		<0.5	<0.5	
Trans 1,2-Dichloroethene		<0.5	<0.5	
1,2-Dichloropropane		<0.5	<0.5	
Cis 1,3-Dichloropropene		<0.5	<0.5	
Trans 1,3-Dichloropropene		<0.5	<0.5	
Ethylbenzene		<0.5	<0.5	
Methylene Chloride		<2.0	<2.0	
SURROGATE	TEST CONC	% REC %	% REC %	% REC %
BromoFluorobenzene	10.0	70-120	103	98

ASL JOB NO: 22030  
PROJECT NAME: Pilot Chemical

### ANALYTICAL RESULT FOR ORGANICS

METHOD: 8010/8020

REPORTING UNIT: ug/L

COMPOUND	CONC.	%RBC	%REC
1,1,1,2-Tetrachloroethane	0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	0.5	<0.5	<0.5
Toluene	0.5	<0.5	<0.5
Tetrachloroethene (PCE)	0.5	<0.5	<0.5
1,1,1-Trichloroethane	0.5	<0.5	<0.5
1,1,2-Trichloroethane	0.5	<0.5	<0.5
Trichloroethene(TCE)	0.5	<0.5	<0.5
Trichlorofluoromethane	1.0	<1.0	<1.0
1,2,3-Trichloropropane	0.5	<0.5	<0.5
Vinyl Chloride	0.5	<0.5	<0.5
Xylenes	1.0	<1.0	<1.0
SURROGATE	CONC.	%RBC	%REC
Bromofluorobenzene	10.0	70-120	103
			98

ASL JOB NO: 22030  
PROJECT NAME: Pillar Chemical

## QA/QC REPORT

### CALIBRATION STANDARD

#### (A). INITIAL CALIBRATION

DATE PERFORMED: 04-06-04  
STANDARD SUPPLY SOURCE: SUPELCO  
INSTRUMENT ID: HP 6890 GC

ANALYTICAL METHOD: 8010 /8020  
DATE OF SOURCE: Feb-2003,Jan-2003  
LOT NUMBER: LB-10255 LB-09455

ASL JOB NO: 22030  
PROJECT NAME: Pilot Chemical

**QA/QC REPORT (Continued)**

### **Matrix Spike(MS)/Matrix Spike Duplicate (MSD)**

**DATE PERFORMED:** 05-24-04

**ANALYTICAL METHOD: 8010/8020**

BATCH#:

LAB SAMPLE ID: 129621

**UNIT:** (Circle one) ug/kg    ug/L

### **Laboratory Quality Control Check Sample (LCS)**

**DATE PERFORMED:** 05-24-04

**ANALYTICAL METHOD: 8010/8020**

**SUPPLY SOURCE:** Supelco  
**LOT NUMBER:** LB10867  
**DATE OF SOURCE:** Mar-2003

**LAB LCS ID:** 8260 STD 20ppb LCS  
**Circle One:** ug/kg ug/L

ANALYTE	SPIKE CONC.	RESULT	%RECOVERY	ACP %REC LIMIT
Benzene	20.0	19.8	99	80-120%
Chlorobenzene	20.0	18.0	90	80-120%
1,1 Dichloroethene	20.0	22.2	111	80-120%
Toluene	20.0	19.4	97	80-120%
Trichlorethene	20.0	18.6	93	80-120%

**ASL JOB NO:** 22030  
**PROJECT NAME:** Pilot Chemical

**QA/QC REPORT (Continued)**

### **Matrix Spike(MS)/Matrix Spike Duplicate (MSD)**

DATE PERFORMED: 05-25-04  
BATCH#:

**ANALYTICAL METHOD: 8010/8020**

### **Laboratory Quality Control Check Sample (LCS)**

DATE PERFORMED: 05-25-04

**ANALYTICAL METHOD: 8910/8920**

**SUPPLY SOURCE:** Supelco  
**LOT NUMBER:** LB10867  
**DATE OF SOURCE:** Mar-2003

**LAB LCS ID: 8260 STD 20ppb LCS**  
**Circle One)    ug/kg    ug/L**

ANALYTE	SPIKE CONC	RESULT	%RECOVERY	ACP %REC LIMIT
Benzene	20.0	20.2	101	80-120%
Chlorobenzene	20.0	19.8	99	80-120%
1,1 Dichloroethene	20.0	16.0	80	80-120%
Toluene	20.0	20.4	102	80-120%
Trichlorethene	20.0	19.8	99	80-120%

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
LOS ANGELES REGION

**LABORATORY REPORT FORM (COVER PAGE 1)**

LABORATORY NAME: AMERICAN SCIENTIFIC LABORATORIES, LLC

ADDRESS: 2520 N. SAN FERNANDO RD., LA CA 90065

TELEPHONE/FAX: TEL:323/223-9700 FAX:323/223-9500

ELAP CERTIFICATION NO. 2200

EXPIRATION DATE: 1-31-2005

AUTHORIZED SIGNATURE

NAME, TITLE(print)

ROBERT G. ARAGHI (Laboratory Director)

SIGNATURE, DATE



7-28-04

CLIENT NAME: PACIFIC EDGE ENGINEERING

PROJECT NAME: PILOT CHEMICAL

PROJECT NUMBER: 0019

ASL JOB NO: 22053

DATE SAMPLED: 05/19/04 09/19/04

DATE RECEIVED: 05/19/04 TO 05/19/04

DATE REPORTED: 05/27/04

CHAIN OF CUSTODY RECEIVED: YES X NO       

COMMENTS:

LOS ANGELES REGIONAL WATER QUALITY CONTROL BOARD  
WATER POLLUTION CONTROL SECTION

**LABORATORY REPORT FORM (COVER PAGE 2)**

**ORGANIC ANALYSES**                   **# OF SAMPLES**                   **#OF SAMPLES SUBCONTRACTED**  
  3

SAMPLE CONDITION:                   GOOD

**INORGANIC ANALYSES**                   **# OF SAMPLES**                   **#OF SAMPLES SUBCONTRACTED**  
  3

SAMPLE CONDITION:                   GOOD

**MICROBIOLOGICAL ANALYSES**                   **#OF SAMPLES**                   **#OF SAMPLES SUBCONTRACTED**

SAMPLE CONDITION:

**OTHER TYPES OF ANALYSES**                   **#OF SAMPLES**                   **#OF SAMPLES SUBCONTRACTED**

SAMPLE CONDITION:

**ASL JOB NO:** 22053  
**PROJECT NAME:** Pilot Chemical

## **ANALYTICAL RESULT FOR pH**

ASL JOB NO: 22053  
PROJECT NAME: Pilot Chemical

**ANALYTICAL RESULT FOR SURFACTANTS(MBAS)**

Method: 425.1	Date Analyzed : 05-20-04			
Prep (TCLP, CAI-WET, DM)	CRDL: 0.05			
Parameter: Surfactants(MBAS)	Reporting Unit: mg/L			
<hr/>				
LAB SAMPLE ID	CLIENT SAMPLE ID	SAMPLE MATRIX	DILUTION FACTOR	RESULT
Method Blank		Water	1.00	<0.050
129823	MW-10	Water	1.00	47.5
129824	MW-9	Water	1.00	0.88
129825	MW-4	Water	1.00	0.55

**ASL JOB NO:** 22053  
**PROJECT NAME:** Pilot Chemical

## **ANALYTICAL RESULT FOR ORGANICS**

METHOD:8015M/DHSLUFT

**REPORTING UNIT:** mg/L

ASL JOB NO: 12261  
PROJECT NAME: Pilot Chemical

## **ANALYTICAL RESULT FOR ORGANICS**

**METHOD:8015M/DHSLUFT**

**REPORTING UNIT:** mg/L

## **QA/QC REPORT (Continued)**

### **Matrix Spike(MS)/Matrix Spike Duplicate (MSD)**

**DATE PERFORMED: 05-20-04**  
**BATCH#: One**  
**LAB SAMPLE ID: 129529**

**ANALYTICAL METHOD: 8015M/DHSLUFT**

### **Laboratory Quality Control Check Sample (LCS)**

**DATE PERFORMED:** 05-20-04

**ANALYTICAL METHOD: 8015M/DHSLUFT**

**SUPPLY SOURCE:** EM Science  
**LOT NUMBER:** EPF00072-1  
**DATE OF SOURCE:** N/A

**LAB LCS ID:** Diesel STD 300ppm LCS  
**UNIT:** (Circle One) ug/kg ug/L

**ASL JOB NO:** 22053  
**PROJECT NAME:** Pilot Chemical

## QA/QC REPORT

### CALIBRATION STANDARD

#### (A). INITIAL CALIRATION

**DATE PERFORMED:** 12-31-2003  
**STANDARD SUPPLY SOURCE:** RESTEK  
**INSTRUMENT ID:** HP 6890 GC

**ANALYTICAL METHOD:** 8015M/DHSLUFT  
**DATE OF SOURCE:** N/A  
**LOT NUMBER:** A029129

ASL JOB NO: 22053  
PROJECT NAME: Pilot Chemical

### ANALYTICAL RESULT FOR ORGANICS

METHOD: 601/602

REPORTING UNIT: ug/L

	Date Analyzed	05-26-04	05-25-04	05-25-04	
	Date Extracted	05-26-04	05-25-04	05-25-04	
	Lab Sample ID	129823	129824	129825	
	Client Sample ID	MW-10	MW-9	MW-4	
	Extraction Solvent	N/A	N/A	N/A	
	Extraction Method	5030	5030	5030	
	Dilution Factor	200	1	1	
ANALYSIS	CONCENTRATION	REF	REC	PREC	
Benzene	0.5	<0.5	<0.5	<0.5	
Bromobenzene	0.5	<0.5	<0.5	<0.5	
Bromodichloromethane	0.5	<0.5	<0.5	<0.5	
Bromoform	1.0	<1.0	<1.0	<1.0	
Bromomethane	1.0	<1.0	<1.0	<1.0	
Carbon Tetrachloride	0.5	<0.5	<0.5	<0.5	
Chlorobenzene	0.5	<0.5	<0.5	<0.5	
Chloroethane	1.0	<1.0	<1.0	<1.0	
Chloroform	0.5	<0.5	1.4	<0.5	
Chloromethane	1.0	<1.0	<1.0	<1.0	
Dibromochloromethane	0.5	<0.5	<0.5	<0.5	
Dibromomethane	0.5	<0.5	<0.5	<0.5	
1,2-Dichlorobenzene	0.5	<0.5	<0.5	<0.5	
1,3-Dichlorobenzene	0.5	<0.5	<0.5	<0.5	
1,4-Dichlorobenzene	0.5	<0.5	<0.5	<0.5	
Dichlorodifluoromethane	0.5	<0.5	<0.5	<0.5	
1,1-Dichloroethane(1,1DCA)	0.5	<0.5	13.5	<0.5	
1,2-Dichloroethane(1,2DCA)	0.5	2600	16.1	27.9	
1,1-Dichloroethylene(1,1DCE)	0.5	<0.5	1.5	<0.5	
Cis 1,2-Dichloroethene	0.5	<0.5	3.7	<0.5	
Trans 1,2-Dichloroethene	0.5	<0.5	<0.5	<0.5	
1,2-Dichloropropane	0.5	<0.5	<0.5	<0.5	
Cis 1,3-Dichloropropene	0.5	<0.5	<0.5	<0.5	
Trans 1,3-Dichloropropene	0.5	<0.5	<0.5	<0.5	
Ethylbenzene	0.5	180	<0.5	<0.5	
Methylene Chloride	2.0	<2.0	<2.0	<2.0	
SURROGAATE	CONCENTRATION	REF	REC	PREC	
BromoFluorobenzene	10.0	70-120	101	100	101

ASL JOB NO: 22053  
PROJECT NAME: Pilot Chemical

ANALYTICAL RESULT FOR ORGANICS

METHOD: 8010/8020

REPORTING UNIT: ug/L

	Date Analyzed	05-26-04	05-25-04	05-25-04	
	Date Extracted	05-26-04	05-25-04	05-25-04	
	Lab Sample ID	129823	129824	129825	
	Client Sample ID	MW-10	MW-9	MW-4	
	Extraction Solvent	N/A	N/A	N/A	
	Extraction Method	5030	5030	5030	
	Dilution Factor	200	1	1	
COMPONENT	GRD1	GRD2	GRD3	GRD4	GRD5
1,1,1,2-Tetrachloroethane	0.5	<0.5	<0.5	<0.5	
1,1,2,2-Tetrachloroethane	0.5	<0.5	<0.5	<0.5	
Toluene	0.5	<0.5	<0.5	<0.5	
Tetrachloroethene (PCE)	0.5	<0.5	1.2	1.0	
1,1,1-Trichloroethane	0.5	<0.5	<0.5	<0.5	
1,1,2-Trichloroethane	0.5	<0.5	<0.5	<0.5	
Trichloroethene(TCE)	0.5	<0.5	79.3	2.2	
Krichlorofluoromethane	1.0	<1.0	<1.0	<1.0	
1,2,3-Trichloropropane	0.5	<0.5	<0.5	<0.5	
Vinyl Chloride	0.5	<0.5	<0.5	<0.5	
Xylenes	1.0	480	<1.0	<1.0	
SURROGATE	GRD1	GRD2	GRD3	GRD4	GRD5
BromoFluorobenzene	10.0	70-120	101	100	101

ASL JOB NO: 22053  
PROJECT NAME: Pilot Chemical

### ANALYTICAL RESULT FOR ORGANICS

METHOD: 8010/8020

REPORTING UNIT: ug/L

COMPOUND	DATE ANALYZED	05-25-04	05-26-04	
	DATE EXTRACTED	05-25-04	05-26-04	
	LAB SAMPLE ID	Method Blank	Method Blank	
	CLIENT SAMPLE ID			
	EXTRACTION SOLVENT	H <sub>2</sub> O	H <sub>2</sub> O	
	EXTRACTION METHOD	5030	5030	
	DILUTION FACTOR	1	1	
COMPOUND	DATE ANALYZED	05-25-04	05-26-04	
Benzene	0.5	<0.5	<0.5	
Bromobenzene	0.5	<0.5	<0.5	
Bromodichloromethane	0.5	<0.5	<0.5	
Bromoform	1.0	<1.0	<1.0	
Bromomethane	1.0	<1.0	<1.0	
Carbon Tetrachloride	0.5	<0.5	<0.5	
Chlorobenzene	0.5	<0.5	<0.5	
Chloroethane	1.0	<1.0	<1.0	
Chloroform	0.5	<0.5	<0.5	
Chloromethane	1.0	<1.0	<1.0	
Dibromochloromethane	0.5	<0.5	<0.5	
Dibromomethane	0.5	<0.5	<0.5	
1,2-Dichlorobenzene	0.5	<0.5	<0.5	
1,3-Dichlorobenzene	0.5	<0.5	<0.5	
1,4-Dichlorobenzene	0.5	<0.5	<0.5	
Dichlorodifluoromethane	0.5	<0.5	<0.5	
1,1-Dichloroethane(1,1DCA)	0.5	<0.5	<0.5	
1,2-Dichloroethane(1,2DCA)	0.5	<0.5	<0.5	
1,1-Dichloroethylene(1,1DCE)	0.5	<0.5	<0.5	
Cis 1,2-Dichloroethene	0.5	<0.5	<0.5	
Trans 1,2-Dichloroethene	0.5	<0.5	<0.5	
1,2-Dichloropropane	0.5	<0.5	<0.5	
Cis 1,3-Dichloropropene	0.5	<0.5	<0.5	
Trans 1,3-Dichloropropene	0.5	<0.5	<0.5	
Ethylbenzene	0.5	<0.5	<0.5	
Methylene Chloride	2.0	<2.0	<2.0	
COMPOUND	DATE ANALYZED	05-25-04	05-26-04	
BromoFluorobenzene	10.0	70-120	98	100

ASL JOB NO: 22053  
PROJECT NAME: Pilot Chemical

ANALYTICAL RESULT FOR ORGANICS

METHOD: 8010/8020

REPORTING UNIT: ug/L

	Date Analyzed	05-25-04	05-26-04	
	Date Extracted	05-25-04	05-26-04	
	Lab Sample ID	Method Blank	Method Blank	
	Client Sample ID			
	Extraction Solvent	H <sub>2</sub> O	H <sub>2</sub> O	
	Extraction Method	5030	5030	
	Dilution Factor	1	1	
EX CONFOUNDERS	CRD	%REC	%REC	
1,1,1,2-Tetrachloroethane	0.5	<0.5	<0.5	
1,1,2,2-Tetrachloroethane	0.5	<0.5	<0.5	
Toluene	0.5	<0.5	<0.5	
Tetrachloroethene (PCE)	0.5	<0.5	<0.5	
1,1,1-Trichloroethane	0.5	<0.5	<0.5	
1,1,2-Trichloroethane	0.5	<0.5	<0.5	
Trichloroethene(TCE)	0.5	<0.5	<0.5	
Trichlorofluoromethane	1.0	<1.0	<1.0	
1,2,3-Trichloropropane	0.5	<0.5	<0.5	
Vinyl Chloride	0.5	<0.5	<0.5	
Xylenes	1.0	<1.0	<1.0	
SURROGATE SPECS	CRD	%REC	%REC	
Bromofluorobenzene	10.0	70-120	98	100

ASL JOB NO: 22053  
PROJECT NAME: Pilot Chemical

## QA/QC REPORT

### CALIBRATION STANDARD

#### (A). INITIAL CALIRATION

DATE PERFORMED: 04-06-04  
STANDARD SUPPLY SOURCE: SUPELCO  
INSTRUMENT ID: HP 6890 GC

ANALYTICAL METHOD: 8010 /8020  
DATE OF SOURCE: Feb-2003,Jan-2003  
LOT NUMBER: LB-10255,LB-09455

**ASL JOB NO:** 22053  
**PROJECT NAME:** Pilot Chemical

## **QA/QC REPORT (Continued)**

### **Matrix Spike(MS)/Matrix Spike Duplicate (MSD)**

**DATE PERFORMED:** 05-25-04

**ANALYTICAL METHOD: 8010/8020**

BATCH#:

LAB SAMPLE ID: 129608

**UNIIT: (Circle one) ug/kg    ug/L**

### **Laboratory Quality Control Check Sample (LCS)**

DATE PERFORMED: 05-25-04

**ANALYTICAL METHOD: 8010/8020**

**SUPPLY SOURCE:** Supelco  
**LOT NUMBER:** LB10867  
**DATE OF SOURCE:** Mar,2003

**LAB LCS ID: 8260 STD 20ppb LCS**  
**Circle One) ug/kg ug/L**

ANALYTE	SPIKE CONC	RESULT	%RECOVERY	ACP %REC LIMIT
Benzene	20.0	20.2	101	80-120%
Chlorobenzene	20.0	19.4	97	80-120%
1,1 Dichloroethene	20.0	16.0	80	80-120%
Toluene	20.0	20.4	102	80-120%
Trichlorethene	20.0	19.8	99	80-120%

**ASL JOB NO:** 22053  
**PROJECT NAME:** Pilot Chemical

**QA/QC REPORT (Continued)**

#### **Matrix Spike(MS)/Matrix Spike Duplicate (MSD)**

**DATE PERFORMED:** 05-26-04

**ANALYTICAL METHOD: 8010/8020**

BATCH#:

**LAB SAMPLE ID: 129608**

UNIT: (Circle one)  $\mu\text{g}/\text{kg}$     $\mu\text{g}/\text{L}$

### **Laboratory Quality Control Check Sample (LCS)**

DATE PERFORMED: 05-26-04

**ANALYTICAL METHOD: 8910/8920**

**SUPPLY SOURCE:** Supelco  
**LOT NUMBER:** LB10867  
**DATE OF SOURCE:** Mar-2003

**LAB LCS ID: 8260 STD 20ppb LCS**  
**Circle One) ug/kg ug/L**

ANALYTE	SPIKE CONC	RESULT	%RECOVERY	ACP %REC LIMIT
Benzene	20.0	19.6	98	80-120%
Chlorobenzene	20.0	18.0	90	80-120%
1,1 Dichloroethene	20.0	23.6	118	80-120%
Toluene	20.0	19.6	98	80-120%
Trichlorethene	20.0	19.0	95	80-120%

# **Appendix C**

## *Disposal Manifest*



PACIFIC EDGE ENGINEERING

(949) 470-1937; (949) 470-0943 (FAX)

N:\P\PILOT\0019.001.001\May 04 Groundwater\test.doc

State of California—Environmental Protection Agency  
Form EPA-9022A No. 2050-0039 (Expires 9-30-99)  
Machine print or type. Form designed for use on 8 1/2" (12-pitch) typewriter.

See Instructions on back of page 6.

Department of Toxic Substances Control  
Sacramento, California

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator's US EPA ID No. <b>C 31191</b>	Manifest Document No.	2. Page 1 of 1	Information in the shaded areas is not required by Federal law.
3. Generator's Name and Mailing Address <b>PILOT CHEMICAL CO.</b> 11750 BURKE ST. SANTA FE SPRINGS 4. Generator's Phone <b>562-945-1867</b>		CA 90670	5. State Manifest No. <b>23831191</b>		
6. Transporter 1 Company Name <b>ENVIRONMENTAL RECOVERY SERVICES, INC.</b>		7. US EPA ID Number <b>C A 0 0 0 0 0 9 7 0 3 9 2</b>	8. Transporter 2 Company Name 9. Designated Facility Name and Site Address <b>DEMENNO KERDOON 2000 NORTH ALAMEDA STREET COMPTON CA 90222</b>		
10. US EPA ID Number <b>C A T 0 0 0 0 1 3 3 1 5 2</b>		11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	13. Total Quantity	14. Unit Wt/Vol
<b>NON RCRA HAZARDOUS WASTE, LIQUID (WATER, OIL)</b>		<b>1001</b>	<b>T P</b>	<b>0.0210</b>	<b>G</b>
15. Special Handling Instructions and Additional Information <b>EMERGENCY CALL ENVIROSERV 1-800-424-8802</b>					
<b>* BILL TO ENVIRONMENTAL RECOVERY SERVICES * USE PROPER SAFETY EQUIPMENT ERS W.O. # 19124 *GW*</b>					
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable International and national government regulations.					
If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.					
Printed/Typed Name <b>STEPHEN TAYMAN</b>		Signature	Month <b>06</b>	Day <b>29</b>	Year <b>04</b>
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name <b>STEPHEN TAYMAN</b>		Signature	Month <b>06</b>	Day <b>29</b>	Year <b>04</b>
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name		Signature	Month	Day	Year
19. Discrepancy Indication Space					
20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. Printed/Typed Name					

DO NOT WRITE BELOW THIS LINE.

23831191  
IN CASE OF EMERGENCY OR SPILL CALL THE NATIONAL RESPONSE CENTER 1-800-424-8802: WITHIN CALIFORNIA, CALL 1-800-952-7550

Blk 6 DTSC 6/30/04